

Palearctic species of the genus *Medetera* (Diptera: Dolichopodidae)**Палеарктические виды рода *Medetera* (Diptera: Dolichopodidae)**

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An updated checklist and a revised key to the males of Palearctic species of the genus *Medetera* including all 180 species and 3 subspecies are provided; 27 species are included in the key for the first time. *Medetera belgica* Parent, *M. bilineata* Frey, *M. kowarzi* Negrobov, *M. miki* Negrobov, *M. peloria* Negrobov, *M. perplexa* (Becker), *M. sphaeropyga* Negrobov, *M. tarasovae* Negrobov, and *M. thunebergi* Negrobov, **stat. resurr.**, are removed from synonymy based on the differences in the male genitalia.

Составлен полный список и дополненная определительная таблица самцов всех 180 палеарктических видов и 3 подвидов рода *Medetera*; 27 видов впервые включены в таблицу. Виды *Medetera belgica* Parent, *M. bilineata* Frey, *M. kowarzi* Negrobov, *M. miki* Negrobov, *M. peloria* Negrobov, *M. sphaeropyga* Negrobov, *M. tarasovae* Negrobov и *M. thunebergi* Negrobov, **stat. resurr.**, восстановлены из синонимов на основе различий в строении гениталий самцов.

Key words: Palearctic Region, checklist, synonymy, key, Diptera, Dolichopodidae, *Medetera*

Ключевые слова: Палеарктика, список видов, синонимия, определительная таблица, Diptera, Dolichopodidae, *Medetera*

INTRODUCTION

The genus *Medetera* Fischer von Waldheim, 1819 comprises 180 species and 3 subspecies in the Palearctic Region. The latest comprehensive taxonomic work on the Palearctic species is the revision of the subfamily Medeterinae by Negrobov & Stackelberg (1972, 1974a, 1974b, 1977). Since then, 27 new Palearctic species of *Medetera* have been described: one species from the Great Britain (Allen, 1976), one species from Poland (Negrobov & Capecki, 1977), five species from Russia (Negrobov, 1979; Negrobov & Golubtsov, 1991), one species from Spain (Rampini & Canzoneri, 1979), four species from Japan (Masunaga & Saigusa, 1998), one species from China

(Yang, 1999), one species from Morocco (Grichanov & Vikhrev, 2009), one species from Tunisia (Grichanov, 2010), three species from Turkey (Naglis, 2013), seven species from Switzerland (Naglis & Negrobov, 2014a, 2014b), and two species from Russia and Mongolia (Negrobov & Naglis, 2015). Moreover, many taxonomic and nomenclatural changes have been published. In this paper, the following species are removed from synonymy based on the differences in the male genitalic structures: *M. belgica* Parent, 1936, *M. bilineata* Frey, 1915, *M. kowarzi* Negrobov in Negrobov & Stackelberg, 1974, *M. miki* Negrobov in Negrobov & Stackelberg, 1974, *M. peloria* Negrobov, 1967, *M. sphaeropyga* Negrobov in Negrobov & Stackelberg, 1974, *M. tarasovae* Negrobov in Negrobov & Stackelberg, 1974, and *M. thunebergi* Negrobov, 1967. Negrobov &

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Stackelberg (1972, 1974a, 1974b) provided a key to all known Palaearctic species, which was published in German. Later on, the keys were published for several regional faunas: the Great Britain (Assis Fonseca, 1978), the Caucasus and the Mediterranean (Grichanov, 2007), North Europe (Grichanov, 2006), Japan (Masunaga & Saigusa, 1998), and China (Yang et al., 2011a, 2011b).

The adults of *Medetera* are often found on vertical surfaces such as tree trunks, walls or rocks. They are predators on small soft-bodied arthropods such as mites, Collembola, Psocoptera and small Diptera (Ulrich, 2005). The larvae live under bark of dead or dying trees and are known as predators of bark beetles. Species of the genus are of considerable importance as agents of biological control (Bickel, 1985). The larvae can destroy up to 32% of the bark beetle larvae of *Hylurgops palliatus* (Gyllenhal, 1813) in Finland (Nuorteva, 1956).

MATERIAL AND METHODS

The checklist includes all known Palaearctic species. For each species, the original combination with the year of publication and page number is provided. The synonyms are listed in chronological order. All taxonomic and nomenclatural changes have been considered. The distributional data are mainly according to Pollet (2013) and Yang et al. (2006); the newer records are considered, the doubtful records are omitted. The countries are listed in alphabetical order; in addition, the distribution by the zoogeographical regions outside the Palaearctic is also given.

The key to males is basically based on Negrobov & Stackelberg (1972) but expanded to include all subsequently described species. The errors found in this key have been corrected. For each species, new diagnostic characters are added, in particular, the hypopygial characters are consequently used and the respective literature references to the figures are given, if available. The figures from Negrobov &

Stackelberg (1972, 1974a, 1974b, 1977) are indicated with an asterisk (*), both in the checklist and in the key. The figures taken from Negrobov & Stackelberg (op. cit.) are mostly given with changes or redrawn.

In describing the hypopygium, dorsal and ventral refers to the position prior to rotation and flexion, i.e. in figures top is morphologically ventral and bottom is dorsal. Morphological terminology follows McAlpine (1981), except the terminology for thoracic chaetotaxy, wing veins and the genitalia, which follows Bickel (1985).

Unlike many other dolichopodid genera, the males of *Medetera* have few secondary sexual characters, and the examination of the male genitalia is usually necessary for reliable identification.

The following morphological abbreviations are used: ac, acrostichal setae; ad, anterodorsal setae; av, anteroventral setae; dc, dorsocentral setae; Dsur, dorsal arm of surstylus; Hyp, hypandrium; pd, posterodorsal setae; pm, presutural supraalar setae; ppl, proepisternal setae; pv, posteroventral setae; sa, postsutural supraalar setae; sr, presutural intraalar setae; Vsur, ventral arm of surstylus.

For the hypopygial structures, see also Figs 1–2.

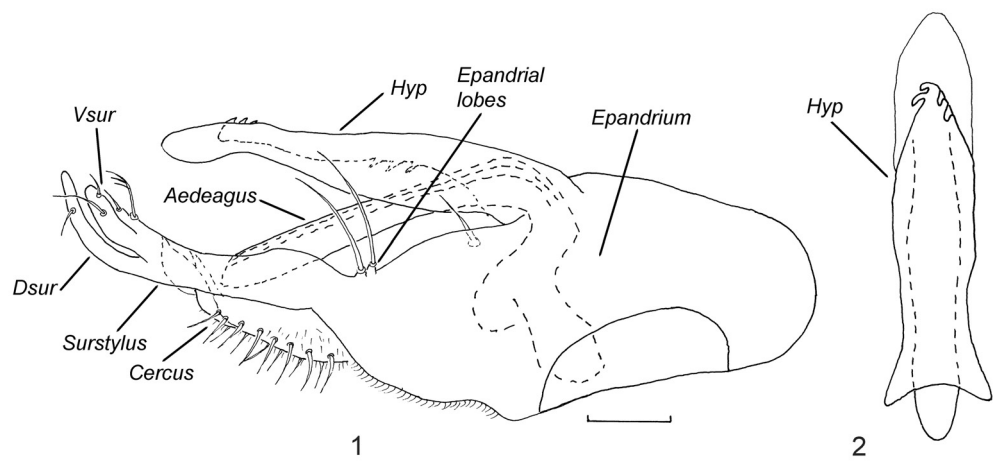
In Negrobov & Stackelberg (1971) some terms for the male genitalia and wing veins are different from those used in the present paper. Both the terminologies are summarized in Table 1.

CHECKLIST OF THE PALAEARCTIC SPECIES AND SUBSPECIES OF MEDETERA

M. abstrusa Thuneberg, 1955

Medetera abstrusa Thuneberg, 1955: 132.

Distribution: Belgium, Czech Republic, Denmark, Great Britain, Estonia, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Russia (European part, Siberia), Slovakia, Sweden, Switzerland, Ukraine.



Figs 1–2. Male genitalia of *Medetera* (*M. helvetica*): **1**, hypopygium, in lateral view (Dsur, dorsal arm of surstylus; Hyp, hyandrium; Vsur, ventral arm of surstylus); **2**, hypandrium, in ventral view (1–2, from Naglis & Negrobov, 2014). Scale: 0.1 mm.

Table 1. Morphological terminology used in the present paper and in Negrobov & Stackelberg (1971).

Present paper	Negrobov & Stackelberg (1971)
Surstylus / surstyli	Gonopode / Gonopoden
Epandrial lobes	Surstyli
Aedeagus	Aedeagus
Vein <i>M</i>	Vein <i>M</i> ₁₊₂
Vein <i>CuA</i>	Vein <i>M</i> ₃₊₄

M. acanthura

Negrobov et Thuneberg, 1970

Medetera acanthura Negrobov et Thuneberg, 1970: 143.

Distribution: Finland, Sweden, Norway, Russia (central and southern European part), Switzerland.

M. adjaniae Gosseries, 1988

Medetera breviseta Parent, 1927: 8.

Medetera adjaniae Gosseries, 1988: 305 (new name for *Medetera breviseta* Parent, 1927, nec Thomson, 1869).

Distribution: Belgium, Estonia, Finland, France, Germany, Russia (northern European part), Sweden, Switzerland.

M. albescens albescens (Parent, 1925)

Oligochaetus albescens Parent, 1925: 154.

Distribution: Egypt.

M. albescens lutescens (Parent, 1925)

Oligochaetus albescens lutescens Parent, 1925: 158.

Distribution: Egypt.

M. albiseta Parent, 1927

Medetera albiseta Parent, 1927: 15.

Distribution: France.

M. albisetosa (Parent, 1925)

Oligochaetus albisetosus Parent, 1925: 158.

Distribution: Egypt.

M. alexandri Negrobov, 1979

Medetera alexandri Negrobov, 1979: 656.

Distribution: Russia (Kuril Islands).

M. alpicola Naglis et Negrobov, 2014

Medetera alpicola Naglis et Negrobov, 2014: 88.

Distribution: Switzerland.

M. ambigua (Zetterstedt, 1843)

Hydrophorus ambiguus Zetterstedt, 1843: 456.

Distribution: Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Italy, Netherlands, Poland, Russia (European part except south, eastern Siberia), Slovakia, Sweden, Ukraine.

M. annulitarsa von Roser, 1840

Medeterus annulitarsus von Roser, 1840: 56.

Medeterus dichaeus Kowarz, 1878: 49.

Distribution: Austria, Czech Republic, Finland, France, Germany, Hungary, Poland, Romania, Slovakia, Spain, Sweden.

M. apicalis (Zetterstedt, 1843)

Hydrophorus apicalis Zetterstedt, 1843: 452.

Medeterus aurivittatus Wheeler, 1899: 29.

Medeterus caerulescens Malloch, 1919: 8.

Medeterus frontalis Van Duzee, 1919: 265.

Medeterus distinctus Van Duzee, 1919: 266.

Medeterus bicolor Van Duzee, 1923: 249.

Medeterus parvus Van Duzee, 1923: 249.

Medeterus ciliatus Van Duzee, 1928: 37.

Medeterus venatus Curran, 1928: 201.

Medeterus simplicipes Curran, 1928: 202.

Medetera orbiculata Van Duzee, 1932: 12.

Medetera albiciliata Van Duzee, 1933: 13.

Medetera arctica Van Duzee, 1933: 152 (new name for *Medetera bicolor* Van Duzee, 1923, nec Meigen, 1838).

Distribution: Abkhazia, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Netherlands, Norway, Poland, Russia (European

part, eastern Siberia), Slovakia, Sweden. Oriental Region: Japan (Ryukyu Islands). Nearctic Region: Canada, USA.

M. araneipes (Parent, 1929)

Oligochaetus araneipes Parent, 1929: 43.

Distribution: Egypt. Afrotropical Region: Sudan.

M. armeniaca Negrobov in Negrobov & Stackelberg, 1972

Medetera armeniaca Negrobov in Negrobov & Stackelberg, 1972: 285.

Distribution: Armenia, Azerbaijan.

M. arrogans (Parent, 1927)

Oligochaetus arrogans Parent, 1927: 232.

Distribution: Italy, Switzerland.

M. asiatica Negrobov et Zaitzev in Negrobov, 1979

Medetera asiatica Negrobov et Zaitzev in Negrobov, 1979: 657.

Distribution: Kyrgyzstan, Russia (eastern Siberia).

M. baicalica Negrobov in Negrobov & Stackelberg, 1972

Medetera baicalica Negrobov in Negrobov & Stackelberg, 1972: 286.

Distribution: Mongolia, Russia (eastern Siberia).

M. bargusinica Negrobov in Negrobov & Stackelberg, 1972

Medetera bargusinica Negrobov in Negrobov & Stackelberg, 1972: 287.

Distribution: Mongolia, Russia (eastern Siberia).

M. belgica Parent, 1936, *stat. resurr.*

Medetera belgica Parent, 1936: 25.

Distribution: Belgium, Germany, Norway, Romania, Russia (northern European part).

Notes. Grichanov (2002) synonymized *M. belgica* with *M. muralis* Meigen, 1824. We herewith restore *M. belgica* from synonymy based on the differences in the hypopygial characters (e.g. aedeagus with short apical projection with a subapical tooth in *M. belgica* (*Fig. 418), aedeagus with long, wiper-shaped apical projection in *M. muralis* (*Fig. 687)). It should be noted that *M. belgica* was described based on a female; the male from northern Russia described and figured in Stackelberg & Negrobov (1972) probably represents a different species.

M. betulae Ringdahl, 1949

Medetera betulae Ringdahl, 1949: 59.

Distribution: Estonia, Finland, Norway, Russia (central European part), Sweden, Switzerland(?).

Notes. The species seems to be restricted to northern Europe. The record of *M. betulae* from Switzerland (Basset, 1985) probably refers to *M. campestris* Naglis et Negrobov, 2014.

M. bidentata Negrobov et Golubtzov, 1991

Medetera bidentata Negrobov et Golubtzov, 1991: 50.

Distribution: Russia (Primorie Terr.).

M. bilineata Frey, 1915, **stat. resurr.**

Medeterus bilineatus Frey, 1915: 52.

Distribution: Czech Republic, Finland, Kazakhstan, Russia (European part, eastern Siberia).

Notes. Bickel (1985) synonymized *M. bilineata* with *M. veles* Loew, 1861. We herewith remove *M. bilineata* from synonymy based on the differences in the hypopygial characters (e.g. epandrial lobes with simple setae in *M. bilineata* (*Fig. 425), epandrial lobes with plumose setae in *M. veles* (Bickel, 1985: Fig. 143)).

M. bisecta Negrobov, 1967

Medetera bisecta Negrobov, 1967: 895.

Distribution: Czech Republic, Russia (central European part, northern Caucasus, eastern Siberia).

M. bispinosa Negrobov, 1967

Medetera bispinosa Negrobov, 1967: 898.

Distribution: Belgium, Czech Republic, France, Germany, Great Britain, Russia (central European part, northern Caucasus).

M. borealis Thunberg, 1955

Medetera borealis Thunberg, 1955: 135.

Distribution: Czech Republic, Finland, Great Britain, Japan, Norway, Russia (European part, eastern Siberia, Primorie Terr.), Sweden.

M. brevitarsa Parent, 1927

Medetera brevitarsa Parent, 1927: 11.

Distribution: Belgium, Romania.

M. brunea Negrobov, 1970

Medetera brunea Negrobov, 1970: 293.

Medetera brunnea (incorrect subsequent spelling).

Distribution: Mongolia.

M. caeruleifacies Naglis et Negrobov, 2014

Medetera caeruleifacies Naglis et Negrobov, 2014: 230.

Distribution: Switzerland.

M. campestris Naglis et Negrobov, 2014

Medetera campestris Naglis et Negrobov, 2014: 232.

Distribution: Switzerland.

M. capillata Negrobov in Negrobov & Stackelberg, 1972

Medetera capillata Negrobov in Negrobov & Stackelberg, 1972: 291.

Distribution: Belgium, Russia (Primorie Terr.).

M. capitiloba Negrobov in Negrobov & Stackelberg, 1972

Medetera capitiloba Negrobov in Negrobov & Stackelberg, 1972: 292.

Distribution: Hungary, Ukraine.

M. chrysotimiformis Kowarz, 1868

Medeterus chrysotimiformis Kowarz, 1868: 220.

Distribution: Austria, Czech Republic, Germany, Hungary, Poland, Slovakia.

Notes. The original description was based on a female.

M. collarti Negrobov, 1967

Medetera collarti Negrobov, 1967: 898.

Distribution: Russia (northern Caucasus).

M. complicata Negrobov, 1967

Medetera complicata Negrobov, 1967: 896.

Distribution: Russia (Ural).

M. curviloba Negrobov in Negrobov & Stackelberg, 1972

Medetera curviloba Negrobov in Negrobov & Stackelberg, 1972: 293.

Distribution: Tajikistan.

M. curvipyga Naglis et Negrobov, 2014

Medetera curvipyga Naglis et Negrobov, 2014: 234.

Distribution: Switzerland.

M. cuspidata Collin, 1941

Medeterus cuspidatus Collin, 1941: 150.

Distribution: Belgium, Finland, France, Germany, Great Britain, Norway, Sweden, Switzerland.

M. delita Negrobov in Negrobov & Stackelberg, 1972

Medetera delita Negrobov in Negrobov & Stackelberg, 1972: 294.

Distribution: Belgium(?), Russia (Primorie Terr.).

Notes. We regard the record from Belgium as doubtful.

M. dendrobaena Kowarz, 1878

Medeterus dendrobaenus Kowarz, 1878: 70.

Distribution: Austria, Belgium, Czech Republic, France, Germany, Great Britain, Greece, Hungary, Iraq, Ireland, Italy, Netherlands, Spain.

M. deserticola (Stackelberg, 1926)

Oligochaetus deserticola Stackelberg, 1926: 292.

Distribution: Kazakhstan, Uzbekistan.

M. diadema (Linnaeus, 1767)

Musca diadema Linnaeus, 1767: 982.

Musca rostrata Fabricius, 1775: 783.

Medetera carnivora Fischer von Waldheim, 1819: tab. 1–11.

Hydrophorus aeneivittatus Macquart, 1827: 250.

Medetera princeps Wheeler, 1899: 25.

Medetera ehrenbergi Becker, 1923: 11.

Distribution: Abkhazia, Algeria, Armenia, Austria, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Egypt, Estonia, France, Germany, Great Britain, Hungary, Italy, Kazakhstan, Netherlands, Poland, Romania, Russia (European part, northern Caucasus, eastern Siberia), Slovakia, Spain, Sweden, Tunisia, Turkey, Ukraine, "Yugoslavia". Nearctic Region: USA.

M. dichrocera Kowarz, 1878

Medeterus dichrocerus Kowarz, 1878: 59.

Distribution: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Japan, Norway, Poland, Russia (northern European part, eastern Siberia), Sweden, Ukraine.

M. educata Negrobov, 1979*Medetera educata* Negrobov, 1979: 657.*Distribution*: Russia (Primorie Terr.).**M. emeljanovi** Negrobov et Naglis, 2015*Medetera emeljanovi* Negrobov et Naglis, 2015: 386.*Distribution*: Mongolia.**M. excellens** Frey, 1909*Medeterus excellens* Frey, 1909: 14.*Distribution*: Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Norway, Russia (European part, Primorie Terr.), Sweden, Switzerland.**M. excisa** Parent, 1914*Medeterus excisus* Parent, 1914: 157.*Distribution*: France.*Notes*. The original description was based on a female.**M. fasciata** Frey, 1915*Medeterus fasciatus* Frey, 1915: 51.*Distribution*: Estonia, Finland, France, Great Britain, Norway, Russia (northern European part), Sweden.**M. fascinator** Negrobov
in Negrobov & Stackelberg, 1972*Medetera fascinator* Negrobov in Negrobov & Stackelberg, 1972: 299.*Distribution*: Russia (Primorie Terr.).**M. feminina** Negrobov, 1967*Medetera feminina* Negrobov, 1967: 902.*Distribution*: Belgium, Czech Republic, Russia (European part).**M. fissa** Negrobov
in Negrobov & Stackelberg, 1972*Medetera fissa* Negrobov in Negrobov & Stackelberg, 1972: 300.*Distribution*: Russia (Primorie Terr.).**M. flavichaeta** Naglis, 2013*Medetera flavichaeta* Naglis, 2013: 167.*Distribution*: Turkey.**M. flavigena** Masunaga et Saigusa, 1998*Medetera flavigenus* Masunaga et Saigusa, 1998: 613.*Distribution*: Japan.**M. flavipes** Meigen, 1824*Medeterus flavipes* Meigen, 1824: 61.*Distribution*: Algeria, Azerbaijan, Belgium, Czech Republic, France, Germany, Great Britain, Italy, Poland, Portugal, Russia (northern Caucasus), Spain, Turkey, Ukraine, "Yugoslavia".**M. flavirostris** Negrobov, 1966*Medetera (Oligochaetus) flavirostris* Negrobov, 1966: 880.*Distribution*: Kazakhstan.**M. freyi** Thuneberg, 1955*Medetera freyi* Thuneberg, 1955: 138.*Distribution*: Finland, Great Britain, Norway, Russia (northern European part).**M. fumida** Negrobov, 1967*Medetera fumida* Negrobov, 1967: 896.*Distribution*: Estonia, Russia (European part).**M. glauca** Loew, 1869*Medeterus glaucus* Loew, 1869: 301.*Distribution*: Austria, Bulgaria, Czech Republic, France, Germany, Netherlands, Poland, Slovakia, Sweden, Switzerland.*Notes*. The original description was probably based on a female.

M. glaucella Kowarz, 1878

Medeterus glaucellus Kowarz, 1878: 51.

Distribution: Austria, Belgium, Croatia, Czech Republic, France, Hungary, Italy, Russia (European part), Slovakia, Ukraine, "Yugoslavia".

M. glaucelloides Naglis, 2013

Medetera glaucelloides Naglis, 2013: 166.

Distribution: Turkey.

M. gotohorum Masunaga et Saigusa, 1998

Medetera gotohorum Masunaga et Saigusa, 1998: 615.

Distribution: Japan. Oriental Region: China.

M. gracilicauda Parent, 1927

Medetera gracilicauda Parent, 1927: 9.

Distribution: Austria, France, Germany, Italy, Sweden, Switzerland.

M. grunini Negrobov, 1966

Medetera (Oligochaetus) grunini Negrobov, 1966: 883.

Distribution: Turkmenistan.

M. gussakovskii Negrobov, 1966

Medetera (Oligochaetus) gussakovskii Negrobov, 1966: 883.

Distribution: Spain(?), Tajikistan, Turkmenistan.

Notes. The species was described from Central Asia. Its record from Spain in Fau-na Europaea (Pollet, 2013) is doubtful.

M. helvetica Naglis et Negrobov, 2014

Medetera helvetica Naglis et Negrobov, 2014: 89.

Distribution: Switzerland.

M. hissarica Negrobov

in Negrobov & Stackelberg, 1974

Medetera hissarica Negrobov in Negrobov & Stackelberg, 1974: 304.

Distribution: Tajikistan.

M. hymera Negrobov

in Negrobov & Stackelberg, 1974

Medetera hymera Negrobov in Negrobov & Stackelberg, 1974: 305.

Distribution: Russia (Amur Prov.).

M. impigra Collin, 1941

Medeterus impiger Collin, 1941: 152.

Distribution: Belgium, Czech Republic, Estonia, Finland, France, Germany, Great Britain, Ireland, Netherlands, Norway, Poland, Russia (northern Caucasus, western and eastern Siberia), Sweden, Switzerland, Ukraine.

M. incisa Negrobov in

Negrobov & Stackelberg, 1974

Medetera incisa Negrobov in Negrobov & Stackelberg, 1974: 306.

Distribution: Russia (Primorie Terr.).

M. incrassata Frey, 1909

Medeterus incrassatus Frey, 1909: 13

Distribution: Estonia, Finland, France, Germany, Great Britain, Norway, Russia (northern European part).

M. infumata Loew, 1857

Medeterus infumatus Loew, 1857: 52.

?*Medetera morio* Fischer von Waldheim, 1830 (possible synonym).

Distribution: Austria, Belarus, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Italy, Mongolia, Netherlands, Norway, Poland, Russia (European part, Siberia, Primorie Terr.), Sweden, Switzerland, "Yugoslavia".

M. infuscata Negrobov

in Negrobov & Stackelberg, 1974

Medetera infuscata Negrobov in Negrobov & Stackelberg, 1974: 307.

Distribution: Russia (Primorie Terr.).

M. insignis Girschner, 1888

Medeterus insignis Girschner, 1888: 97.

Medetera flavipes auct. (misidentification).

Distribution: France, Germany, Great Britain.

M. inspissata Collin, 1952

Medeterus inspissatus Collin, 1952: 142.

Distribution: Belgium, Estonia, Finland, Great Britain, Netherlands, Norway, Russia (northern Caucasus), Slovakia, Sweden, Switzerland.

M. jacula (Fallén, 1823)

Hydrophorus jaculus Fallén, 1823: 5.

Medeterus nigricans Meigen, 1824: 67.

Distribution: Austria, Belarus, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Kazakhstan, Netherlands, Norway, Poland, Romania, Russia (European part, northern Caucasus, eastern Siberia), Slovakia, Sweden, Switzerland, Tunisia, Turkey, Ukraine.

M. jakuta Negrobov
in Negrobov & Stackelberg, 1974

Medetera jakuta Negrobov in Negrobov & Stackelberg, 1974: 310.

Distribution: Russia (Yakutia).

M. japonica Negrobov, 1970

Medetera japonica Negrobov, 1970: 2.

Distribution: Japan.

M. jugalis Collin, 1941

Medeterus jugalis Collin, 1941: 153.

Distribution: Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Netherlands,

Norway, Russia (eastern Siberia), Slovakia, Sweden, Switzerland.

M. kaszabi Negrobov, 1970

Medetera kaszabi Negrobov, 1970: 289.

Distribution: Mongolia.

M. kerzhneri Negrobov, 1966

Medetera (Oligochaetus) kerzhneri Negrobov, 1966: 882.

Distribution: France, Kazakhstan, Russia (eastern Siberia), Switzerland.

M. kowarzi Negrobov in Negrobov
& Stackelberg, 1974, **stat. resurr.**

Medetera kowarzi Negrobov in Negrobov & Stackelberg, 1974: 312.

Distribution: Austria, France, Switzerland.

Notes. Grichanov (2002) synonymized *M. kowarzi* with *M. muralis* Meigen. We herewith restore *M. kowarzi* from synonymy based on the differences in the hypopygial characters (e.g. aedeagus with short rounded apical projection in *M. kowarzi* (*Fig. 623), aedeagus with long wipe-shaped apical projection in *M. muralis* (*Fig. 687)).

M. krivosheinae Negrobov, 1968

Medetera krivosheinae Negrobov, 1968: 472.

Distribution: Russia (European part).

M. lamprostoma Loew, 1871

Medeterus lamprostomus Loew, 1871: 58.

Distribution: Tajikistan, Turkmenistan, Uzbekistan.

M. lamprostomoides lamprostomoides

Negrobov in Negrobov & Stackelberg, 1974

Medetera lamprostomoides Negrobov in Negrobov & Stackelberg, 1974: 313.

Distribution: Russia (eastern Siberia), Turkey.

M. lamprostomoides kasachstanica

Negrobov in Negrobov & Stackelberg, 1974

Medetera lamprostomoides kasachstanica Negrobov in Negrobov & Stackelberg, 1974: 314.

Distribution: Kazakhstan.

M. latipennis Negrobov, 1970

Medetera latipennis Negrobov, 1970: 290.

Distribution: China, Mongolia.

M. leucarista Stackelberg, 1947

Medetera (Oligochaetus) leucarista Stackelberg, 1947: 95.

Distribution: Tajikistan.

M. longicauda Becker, 1917

Medetera longicauda Becker, 1917: 342.

Distribution: France, Germany, Hungary, Russia (central European part), Slovakia, "Yugoslavia".

Notes. The original description was based on a female.

M. lorea Negrobov, 1967

Medetera lorea Negrobov, 1967: 892.

Distribution: Belgium, Germany, Russia (central European part), Switzerland.

M. luteipes Masunaga et Saigusa, 1998

Medetera luteipes Masunaga et Saigusa, 1998: 616.

Distribution: Japan.

M. media Parent, 1925

Medetera media Parent, 1925: 186.

Distribution: Egypt, Kazakhstan, Tunisia, Turkmenistan.

M. melancholica Lundbeck, 1912

Medeterus melancholicus Lundbeck, 1912: 325.

Distribution: Belgium, Denmark, Estonia, Finland, Great Britain, Norway, Russia (northern European part, Siberia), Sweden, Switzerland.

M. meridionalis Negrobov, 1967

Medetera meridionalis Negrobov, 1967: 903.

Distribution: Czech Republic, Russia (European part, northern Caucasus, Ural, western Siberia), Turkey, Ukraine.

M. micacea Loew, 1857

Medeterus micaceus Loew, 1857: 55.

Medetera (Oligochaetus) acuta Negrobov, 1966: 882.

Distribution: Austria, Belgium, Bulgaria, China, Denmark, Estonia, France, Germany, Great Britain, Hungary, Italy, Kazakhstan, Mongolia, Netherlands, Norway, Poland, Romania, Russia (European part, northern Caucasus, eastern Siberia), Slovakia, Spain, Sweden, Switzerland, Ukraine, Uzbekistan.

M. miki Negrobov in Negrobov & Stackelberg, 1974, *stat. resurr.*

Medetera miki Negrobov in Negrobov & Stackelberg, 1974: 318.

Distribution: Austria.

Notes. Grichanov (2002) synonymized *M. miki* with *M. muralis* Meigen. We here-with restore *M. miki* from synonymy based on the differences in the hypopygial characters (e.g. aedeagus with short pin-shaped apical projection in *M. miki* (*Fig. 661), aedeagus with long wipe-shaped apical projection in *M. muralis* (*Fig. 687)).

M. mixta Negrobov, 1967

Medetera mixta Negrobov, 1967: 189.

Distribution: Bulgaria, Czech Republic, France, Germany, Kazakhstan, Kyrgyzstan, Mongolia, Romania, Russia (European part, northern Caucasus), Slovakia, Switzerland, Tajikistan, Turkey, Ukraine.

M. mongolica Negrobov, 1966

Medetera (Oligochaetus) mongolica Negrobov, 1966: 881.

Distribution: Mongolia.

M. montana Negrobov

in Negrobov & Stackelberg, 1974

Medetera montana Negrobov in Negrobov & Stackelberg, 1974: 319.

Distribution: Tajikistan, Uzbekistan.

M. morgei Negrobov, 1971

Medetera morgei Negrobov, 1971: 67.

Distribution: France.

M. mucronata

Negrobov et Golubtzov, 1991

Medetera mucronata Negrobov et Golubtzov, 1991: 52.

Distribution: Russia (Primorie Terr.).

M. muralis Meigen, 1824

Medeterus muralis Meigen, 1824: 62.

Medeterus melanopleurus Loew, 1857: 52.

Medetera tertia Becker, 1917: 346.

Distribution: Austria, Belarus, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Romania, Russia (European part, northern Caucasus), Slovakia, Sweden, Switzerland, Turkey, "Yugoslavia".

M. murina Becker, 1917

Medetera murina Becker, 1917: 343.

Medetera brolemanni Parent, 1927: 17.

Medeterus cryophorus Séguay, 1963: 214.

Distribution: Czech Republic, France, Romania, Russia (northern Caucasus), "Yugoslavia".

M. nakamurai Masunaga et Saigusa, 1998

Medetera nakamurai Masunaga et Saigusa, 1998: 617.

Distribution: Japan.

M. nebulosa Negrobov

in Negrobov & Stackelberg, 1974

Medetera nebulosa Negrobov in Negrobov & Stackelberg, 1974: 322.

Distribution: Russia (Primorie Terr.).

M. negrobovi Gosseries, 1988

Medeterus ruficornis Strobl, 1898: 426.

Medetera negrobovi Gosseries, 1988: 306 (new name for *Medeterus ruficornis* Strobl, 1898, nec Haliday, 1838).

Distribution: Bosnia and Herzegovina.

M. nitida (Macquart, 1834)

Hydrophorus nitidus Macquart, 1834: 446.

Medetera stackelbergi Parent, 1927: 7.

Distribution: Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Great Britain, Norway, Russia (northern European part, Ural, Primorie Terr.), Sweden, Switzerland.

M. obesa Kowarz, 1878

Medeterus obesus Kowarz, 1878: 56.

Distribution: Austria, Belgium, France, Italy, Poland.

Notes. The original description was based on a female.

M. obscura (Zetterstedt, 1838)

Hydrophorus obscurus Zetterstedt, 1838: 701.

Medeterus robustus Loew, 1857: 51.

Medetera robusta Ounap, 1997: 125.

Distribution: Austria, Czech Republic, Estonia, Finland, France, Germany, Great Britain, Hungary, Latvia, Netherlands, Norway, Poland, Russia (northern European part, eastern Siberia), Slovakia, Sweden.

M. occultans Negrobov, 1970

Medetera occultans Negrobov, 1970: 3.

Distribution: Japan.

M. olegi Naglis, 2013

Medetera olegi Naglis, 2013: 169.

Distribution: Turkey.

M. oscillans Allen, 1976

Medetera oscillans Allen, 1976: 77.

Distribution: Belgium, Great Britain, Netherlands.

M. pallens Negrobov, 1967

Medetera pallens Negrobov, 1967: 892.

Distribution: Russia (northern Caucasus).

M. pallidior (Stackelberg, 1937)

Oligochaetus albosetosus pallidior Stackelberg, 1937: 129.

Distribution: Armenia, Russia (European part, northern Caucasus), Tajikistan, Turkmenistan, Uzbekistan.

M. pallipes (Zetterstedt, 1843)

Hydrophorus pallipes Zetterstedt, 1843: 453.

Hydrophorus jaculus var. b Zetterstedt, 1838: 702.

Medetera dendrophila Becker, 1917: 345.

Distribution: Abkhazia, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Netherlands, Norway, Poland, Romania, Russia (northern Caucasus), Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine.

M. palmaris Negrobov

in Negrobov & Stackelberg, 1974

Medetera palmaris Negrobov in Negrobov & Stackelberg, 1974: 326.

Distribution: Tajikistan.

M. paralamprostoma Negrobov

in Negrobov & Stackelberg, 1974

Medetera paralamprostoma Negrobov in Negrobov & Stackelberg, 1974: 327.

Distribution: Tajikistan.

M. parenti Stackelberg, 1925

Medetera parenti Stackelberg, 1925: 204.

Medetera collini Thunberg, 1955: 135.

Distribution: Belgium, Estonia, Finland, Great Britain, Hungary, Norway, Russia (European part, northern Caucasus), Sweden, Switzerland.

M. parvicornis Santos Abreu, 1929

Medetera parvicornis Santos Abreu, 1929: 429.

Distribution: Spain (Canary Islands).

M. pavlovskii Negrobov

in Negrobov & Stackelberg, 1974

Medetera pavlovskii Negrobov in Negrobov & Stackelberg, 1974: 328.

Distribution: Iran.

M. peloria Negrobov, 1967, **stat. resurr.**

Medetera peloria Negrobov, 1967: 891.

Medetera peloris (incorrect subsequent spelling).

Distribution: Abkhazia, Azerbaijan, Russia (northern Caucasus), Switzerland(?).

Notes. Grichanov (2002) synonymized *M. peloria* with *M. muralis* Meigen. We herewith restore *M. peloria* from synonymy based on the differences in the hypopygial characters (e.g. aedeagus with strong, conical process in *M. peloria* (*Fig. 741), aedeagus without conical process in *M. muralis* (*Fig. 687)). The species is so far known only from the Caucasus. The record of *M. peloria* from Switzerland (Bächli et al., 2014) probably refers to *M. muralis*.

M. penicillata Negrobov, 1970

Medetera penicillata Negrobov, 1970: 1.

Distribution: Japan, Russia (Primorie Terr.).

M. perfida Parent, 1932

Medetera perfida Parent, 1932: 224.

Distribution: Austria, Belgium, France, Germany, Russia (northern Caucasus), Turkey, Ukraine.

M. perplexa (Becker, 1917), **stat. resurr.**

Oligochaetus perplexus Becker, 1917: 353.

Distribution: Bulgaria, Romania, Spain, Tunisia.

Notes. Grichanov (2007) synonymized *Medetera perplexa* with *Acropsilus niger* (Loew, 1869) but without examining the type material. The genus *Acropsilus* Mik, 1878 belongs to another subfamily, Pello-ropeodinae, which differs clearly from the subfamily Medeterinae.

M. petrophila Kowarz, 1878

Medeterus petrophilus Kowarz, 1878: 71.

Distribution: Austria, Belgium, Denmark, France, Germany, Great Britain, Greece, Hungary, Italy, Morocco, Poland, Spain, Sweden, Switzerland.

M. petrophiloides Parent, 1925

Medetera petrophiloides Parent, 1925: 533.

Distribution: Belgium, Bulgaria, Czech Republic, France, Germany, Great Britain, Ireland, Netherlands, Russia (south European part, northern Caucasus), Slovakia, Switzerland.

M. pinicola Kowarz, 1878

Medeterus pinicola Kowarz, 1878: 61.

Medetera nuortevai Thuneberg, 1955: 140.

Medetera piceae Ounap, 1997: 123.

Distribution: Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Netherlands, Norway, Russia (European part, eastern Siberia), Sweden, Switzerland. Nearctic Region: Canada, USA.

M. plumbella Meigen, 1824

Medeterus plumbellus Meigen, 1824: 69.

Medeterus minutus von Roser, 1840: 56.

Hydrophorus minutus Zetterstedt, 1843: 456.

Distribution: Austria, Belgium, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Russia (European part), Slovakia, Sweden, Switzerland, Turkey, Ukraine.

M. polonica Negrobov et Capecki, 1977

Medetera polonica Negrobov et Capecki, 1977: 191.

Distribution: Poland, Switzerland.

M. prjachinae Negrobov
in Negrobov & Stackelberg, 1974

Medetera prjachinae Negrobov in Negrobov & Stackelberg, 1974: 332.

Distribution: Estonia, Russia (northern European part).

M. protuberans Negrobov, 1967

Medetera protuberans Negrobov, 1967: 893.

Distribution: Finland, Russia (northern European part).

M. pseudoapicalis Thuneberg, 1955

Medetera pseudoapicalis Thuneberg, 1955: 141.

Distribution: Belgium, Estonia, Finland, Netherlands, Norway, Russia (northern European part, eastern Siberia), Sweden.

M. pulchrfacies Santos Abreu, 1929

Medetera pulchrfacies Santos Abreu, 1929: 424.

Distribution: Spain (Canary Islands).

M. ravida Negrobov, 1970

Medetera ravida Negrobov, 1970: 6.

Distribution: Japan, Russia (Primorie Terr.).

M. relicta Negrobov, 1967

Medetera relicta Negrobov, 1967: 902.

Distribution: Czech Republic, Russia (central European part, northern Caucasus).

M. rhombomium (Stackelberg, 1937)

Oligochaetus rhombomium Stackelberg, 1937: 125.

Distribution: Kazakhstan, Turkmenistan, Uzbekistan.

M. roghii Rampini et Canzoneri, 1979

Medetera roghii Rampini et Canzoneri, 1979: 265.

Distribution: Spain (Minorca Island).

M. rufipes Negrobov

in Negrobov & Stackelberg, 1974

Medetera rufipes Negrobov in Negrobov & Stackelberg, 1974: 336.

Distribution: Russia (Primorie Terr.).

M. sakhalinensis Negrobov et Naglis, 2015

Medetera sakhalinensis Negrobov et Naglis, 2015: 387.

Distribution: Russia (Sakhalin Island).

M. saxatilis Collin, 1941

Medeterus saxatilis Collin, 1941: 145.

Medetera saxicola auct. (incorrect subsequent spelling).

Distribution: Austria, Belgium, France, Germany, Great Britain, Ireland, Netherlands, Portugal, Spain, Switzerland(?), Syria.

Notes. The record from Switzerland (Bächli et al., 2014) is doubtful, since it is based on a female.

M. seguyi seguyi Parent, 1926

Medetera seguyi Parent, 1926: 36.

Distribution: Belgium, France, Norway, Switzerland.

M. seguyi sphaeroidea Negrobov, 1967

Medetera seguyi sphaeroidea Negrobov, 1967: 894.

Distribution: Russia (northern Caucasus).

M. senicula Kowarz, 1878

Medeterus seniculus Kowarz, 1878: 46.

Distribution: Belgium, Denmark, Estonia, Finland, France, Germany, Great Britain, Poland, Russia (northern European part, western Siberia), Sweden.

M. setiventris Thuneberg, 1955

Medetera setiventris Thuneberg, 1955: 142.

Distribution: Belgium, Estonia, Finland, France, Great Britain, Norway, Romania, Russia (northern European part, western Siberia), Sweden, Switzerland, Turkey.

M. sfax Grichanov, 2010

Medetera sfax Grichanov, 2010: 72.

Distribution: Tunisia.

M. sibirica Negrobov

in Negrobov & Stackelberg, 1974

Medetera sibirica Negrobov in Negrobov & Stackelberg, 1974: 339.

Distribution: Russia (western Siberia).

M. signaticornis Loew, 1857

Medeterus signaticornis Loew, 1857: 51.

Medetera subglauca Becker, 1917: 345.

Medeterus viridifacies Van Duzee, 1923: 248.

Medeterus trisetosus Van Duzee, 1924: 246.

Medeterus vanduzeei Curran, 1928: 203.

Distribution: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Japan, Lithuania, Mongolia, Norway, Poland, Russia (northern European part, Siberia, Primorie Terr.), Sweden, Switzerland, Ukraine. Nearctic Region: Canada, USA.

M. sphaeropyga Negrobov in Negrobov & Stackelberg, 1974, *stat. resurr.*

Medetera sphaeropyga Negrobov in Negrobov & Stackelberg, 1974: 340.

Distribution: Russia (Primorie Terr.).

Notes. Bickel (1985) synonymized *M. sphaeropyga* with *M. veles* Loew. We herewith restore *M. sphaeropyga* from synonymy based on the differences in the hypopygial characters (e.g. epandrial lobes with simple setae in *M. sphaeropyga* (*Fig. 831), epandrial lobes with plumose setae in *M. veles* (Bickel, 1985: Fig. 143)).

M. spinigera (Stackelberg, 1937)

Oligochaetus spiniger Stackelberg, 1937: 126.

Distribution: Uzbekistan.

M. spinulicauda Negrobov, 1970

Medetera spinulicauda Negrobov, 1970: 291.

Distribution: Mongolia, Russia (Amur Prov.).

M. stackelbergiana Negrobov, 1967

Medetera stackelbergiana Negrobov, 1967: 899.

Distribution: Czech Republic, Russia (European part, Primorie Terr.).

M. storai Frey, 1935

Medetera storai Frey, 1935: 68.

Medetera storoi auct. (incorrect subsequent spelling)

Distribution: Spain (Canary Islands).

M. striata Parent, 1927

Medetera striata Parent, 1927: 14.

Distribution: Belgium, Estonia, Finland, France, Great Britain, Norway, Poland, Russia (European part except south, northern Caucasus, western Siberia), Sweden.

Notes. The original description was based on a female.

M. stylata Negrobov in Negrobov & Stackelberg, 1974

Medetera stylata Negrobov in Negrobov & Stackelberg, 1974: 342.

Distribution: Russia (eastern Siberia, Primorie Terr.).

M. subtristis Negrobov, 1970

Medetera subtristis Negrobov, 1970: 293.

Distribution: Mongolia, Russia (western and eastern Siberia).

M. sutshanica Negrobov in Negrobov & Stackelberg, 1974

Medetera sutshanica Negrobov in Negrobov & Stackelberg, 1974: 344.

Distribution: Russia (Primorie Terr.).

M. sylvestris (Becker, 1908)

Oligochaetus sylvestris Becker, 1908: 56.

Distribution: Spain (Canary Islands).

M. takagii Negrobov, 1970

Medetera takagii Negrobov, 1970: 3.

Distribution: Belgium(?), Germany(?), Japan.

Notes. The records of *M. takagii* from Belgium and Germany probably refer to *M. caeruleifacies*.

M. tarasovae Negrobov in Negrobov & Stackelberg, 1974, **stat. resurr.**

Medetera tarasovae Negrobov in Negrobov & Stackelberg, 1974: 345.

Distribution: Russia (Siberia, Amur Prov.).

Notes. Bickel (1985) synonymized *M. tarasovae* with *M. halteralis* Van Duzee, 1919. We herewith restore *M. tarasovae* from synonymy based on the differences in the hypopygial characters (e.g. surstylus about 4 times as long as its basal width in *M. tarasovae* (*Fig. 875), surstylus about 7 times as long as its basal width in *M. halteralis* (Bickel, 1985: Fig. 126)).

M. taurica Negrobov in Negrobov & Stackelberg, 1974

Medetera taurica Negrobov in Negrobov & Stackelberg, 1974: 345.

Distribution: Russia (Crimea).

M. tenuicauda Loew, 1857

Medeterus tenuicaudus Loew, 1857: 53.

Distribution: Austria, Czech Republic, Estonia, France, Germany, Greece, Hungary, Italy, Poland, Russia (central and south European part, northern Caucasus), Slovakia, Sweden, Ukraine.

M. thunebergi Negrobov, 1967,
stat. resurr.

Medetera thunebergi Negrobov, 1967: 893.

Distribution: Russia (European part, Ural, western Siberia, Amur Prov.), Switzerland, Turkey, Ukraine.

Notes. Grichanov (2002) synonymized *M. thunebergi* with *M. excellens* Frey. We herewith restore *M. thunebergi* from synonymy based on the differences in the hypopygial characters (e.g. in *M. excellens* the aedeagus in ventral view with two acute subapical lateral projections (*Fig. 510), in *M. thunebergi* the aedeagus in ventral view without two acute subapical lateral projections (*Fig. 902)).

M. ticinensis Naglis et Negrobov, 2014

Medetera ticinensis Naglis et Negrobov, 2014: 91.

Distribution: Switzerland.

M. tristis (Zetterstedt, 1838)

Hydrophorus tristis Zetterstedt, 1838: 702.

Distribution: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Netherlands, Norway, Poland, Russia (northern European part, northern Siberia, Primorie Terr.), Slovakia, Sweden, Switzerland.

M. truncorum Meigen, 1824

Medeterus truncorum Meigen, 1824: 67.

Distribution: Algeria, Austria, Azerbaijan, Azores, Belgium, Croatia, Czech Re-

public, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia (northern Caucasus, Ural, western Siberia), Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, "Yugoslavia". Nearctic Region: Canada, USA.

M. tuberculata Negrobov, 1966

Medetera (Oligochaetus) tuberculata Negrobov, 1966: 880.

Distribution: China, Mongolia.

M. tuberculosa Negrobov
in Negrobov & Stackelberg, 1977

Medetera tuberculosa Negrobov in Negrobov & Stackelberg, 1972: 276 (nomen nudum).

Medetera tuberculata Negrobov in Negrobov & Stackelberg, 1977: 349 (typographic error; nec *M. tuberculata* Negrobov, 1966).

Medetera tuberculosa Negrobov in Negrobov & Stackelberg, 1977: Taf. CXIII, Figs 890–892 and Taf. CXIV, Figs 896–897.

Distribution: Russia (Primorie Terr.).

Notes. Although the name was mentioned in the catalogues as "*Medetera tuberculosa* Negrobov in Negrobov & Stackelberg, 1972" (Negrobov, 1991: 134; Yang et al., 2006: 291), actually it became available only in 1977. The name "*M. tuberculosa* sp. n." was first mentioned in the key to species of Palearctic *Medetera* (Negrobov & Stackelberg, 1972) but without indication of the type locality and any other data on the types. The description of the species was published later (Negrobov & Stackelberg, 1977) but with the erroneous heading "*Medetera tuberculata* Negrobov, sp. n." (junior homonym of *Medetera tuberculata* Negrobov, 1966), owing to a typographic error. However, the name "*Medetera tuberculosa* Negrobov, sp. n." was used in the captions to the figures referred to in the original description, thus it became available.

M. tumidula Negrobov, 1967

Medetera tumidula Negrobov, 1967: 895.

Distribution: Russia (northern Caucasus).

M. turkestanica (Stackelberg, 1926)

Oligochaetus turkestanicus Stackelberg, 1926: 294.

Distribution: Uzbekistan.

M. turkmenorum (Stackelberg, 1937)

Oligochaetus turkmenorum Stackelberg, 1937: 124.

Distribution: Mongolia, Tajikistan, Turkmenistan.

M. unisetosa Collin, 1941

Medeterus unisetosus Collin, 1941: 148.

Distribution: Belgium, Great Britain, Slovakia, Switzerland.

M. ussuriana Negrobov

in Negrobov & Stackelberg, 1977

Medetera ussuriana Negrobov in Negrobov & Stackelberg, 1977: 350.

Distribution: Russia (Primorie Terr.).

M. vagans Becker, 1917

Medetera vagans Becker, 1917: 347.

Medetera fennica Thuneberg, 1955: 137.

Distribution: Czech Republic, Finland, France, Germany, Norway, Russia (northern European part, Siberia, Primorie Terr.), Slovakia, Sweden, Switzerland.

M. valaisensis Naglis et Negrobov, 2014

Medetera valaisensis Naglis et Negrobov, 2014: 236.

Distribution: Switzerland.

M. varvara Grichanov et Vikhrev, 2009

Medetera varvara Grichanov & Vikhrev, 2009: 48.

Distribution: Morocco.

M. veles Loew, 1861

Medeterus veles Loew, 1861: 73.

Medeterus appendiculatus Wheeler, 1899: 73.

Medetera albosetosa Van Duzee, 1928: 36.

Medetera intermedia Van Duzee, 1928: 40.

Medetera wheeleri Foote, Coulson et Robinson, 1965: 511 (new name for *Medeterus appendiculatus* Wheeler, 1899, nec Macquart, 1827).

Medetera veles var. *scotica* Cole, 1989: 117 (nomen nudum).

Distribution: Belgium, Czech Republic, Finland, Great Britain, Norway, Russia (Siberia), Sweden. Nearctic Region: Canada, USA. Neotropical Region: Mexico. Oriental Region: Japan (Ryukyu Islands).

M. verae Negrobov, 1967

Medetera verae Negrobov, 1967: 190.

Distribution: Armenia, Turkey.

M. victoris Negrobov

in Negrobov & Stackelberg, 1977

Medetera victoris Negrobov in Negrobov & Stackelberg, 1977: 352.

Distribution: Russia (Primorie Terr.).

M. vlasovi (Stackelberg, 1937)

Oligochaetus vlasovi Stackelberg, 1937: 127.

Distribution: Kazakhstan, Turkmenistan.

Notes. *Medetera vlasovi* is the type species of the monotypic genus *Asioligochaetus* Negrobov, 1966, with the status still debatable.

M. xizangensis Yang, 1999

Medetera xizangensis Yang, 1999: 165.

Distribution: China.

M. zaitzevi Negrobov

in Negrobov & Stackelberg, 1977

Medetera zaitzevi Negrobov in Negrobov & Stackelberg, 1977: 352.

Distribution: Tajikistan.

M. zimini (Negrobov, 1966)

Medetera (*Lorea*) *zimini* Negrobov, 1966: 878.

Distribution: Tajikistan.

***M. zinovjevi* Negrobov, 1967**

Medetera zinovjevi Negrobov, 1967: 900.

Distribution: Estonia, Norway, Russia (northern European part, Ural, Primorie Terr.), Sweden.

A KEY TO THE MALES OF PALAEARCTIC SPECIES OF MEDETERA

Medetera chrysotimiformis Kowarz, *M. excisa* Parent and *M. obesa* Kowarz known only from females, and *M. pulchrifacies* Santos Abreu described very incompletely, are not included in the key. The numbers of figures which are reproduced here as illustrations to the key, are given in bold.

1. Postocular setae irregular; wing milky with brownish spots (*Fig. 172); mid tibia with 3 strong apical setae, one of them nearly as long as mid basitarsus: **Fig. 3** (*Fig. 386) [subgenus *Asioligochaetus* according to Negrobov & Stackelberg (1972)] ***M. vlasovi***
 - Postocular setae uniseriate, regular; wing hyaline, without spots; mid tibia with short apical setae 2
2. Distal section of vein *CuA* 5–6 times as long as crossvein *dm-cu* (*Fig. 173); basal section of *CuA* swollen at almost entire length [subgenus *Lorea* according to Negrobov & Stackelberg (1972)] 3
 - Distal section of *CuA* at most 3–4 times as long as crossvein *dm-cu*; basal section of *CuA* usually not swollen, if swollen then not at entire length 4
3. Surstylus with a deep incision: **Fig. 4** (*Fig. 390) ***M. zimini***
 - Surstylus without incision: **Fig. 5** (*Fig. 380) ***M. spinigera***
4. Mid tibia without setae in basal third ... 5
 - Mid tibia with a pair of ad/pd setae in basal third, sometimes with only one pd seta ... 13
5. Distal section of *CuA* about as long as crossvein *dm-cu*; thorax metallic-green, shining ... ***M. storai***
 - Distal section of *CuA* about 1.5 times as long as crossvein *dm-cu*; thorax with dense grey pruinosity 6
6. Postocular setae white 7
 - Postocular setae black 8
7. Coxae and legs yellow; halter pale yellow; Vsur with a fringed apical seta (Naglis, 2013: Fig. 1A); Hyp narrow, 7 times as long as wide:

- Fig. 6** (Naglis, 2013: Fig. 1B) ***M. glauclloides***
- Coxae and legs black; halter with black knob; Vsur with 3 simple subapical setae: **Fig. 7** (Naglis & Negrobov, 2014c: Fig. 1A); Hyp broad, 2.5 times as long as wide (Naglis & Negrobov, 2014c: Fig. 1B) ***M. glaucella***
 - 8. Legs entirely black; wings with brownish tinge; surstylus in distal half nodule-shaped (*Fig. 576); aedeagus with curved and pointed apex, with dorsal subapical tooth and semicircular incision (*Fig. 558; with erroneous caption "*M. grunini*"); hypopygium as in **Fig. 8** (*Fig. 564) ***M. incisa***
 - At least mid basitarsus yellow; wings hyaline 9
 - 9. Epistom matt; aedeagus with short and rounded apical projection: **Fig. 9** (*Fig. 623); Dsur longer than Vsur (*Fig. 624); cercus with 3 apical projections ***M. kowarzi***
 - Epistom shining; aedeagus with a long slender or acute apical projection 10
 - 10. Tibiae usually dark; apical projection of aedeagus with acute apex and subapical tooth: **Fig. 10** (*Fig. 418); Dsur strongly curved (*Fig. 420); cercus with three apical projections ***M. belgica***
 - Tibiae usually yellow or brownish yellow; apical projection of aedeagus with obtuse apex, without middorsal tooth; cercus usually only with two apical projections 11
 - 11. Apical projection of aedeagus with a small dorsobasal tooth: **Fig. 11** (*Fig. 687); surstylus with a deep cleft (*Fig. 684) ***M. muralis***
 - Apical projection of aedeagus without tooth 12
 - 12. Apical projection of aedeagus with dorsobasal conical process: **Fig. 12** (*Fig. 744); cercus with 2 apical projections (*Fig. 742) ***M. peloria***
 - Apical projection of aedeagus without dorsobasal process: **Fig. 13** (*Fig. 661) ... ***M. miki***
 - 13. Scutellum with 2 strong marginal setae ... 14
 - Scutellum with 4 strong marginal setae 41
 - 14. Four pairs of dc setae ***M. perplexa***
 - Three pairs of dc setae 15
 - 15. Face more or less monochrome; clypeus not metallic shining 16
 - Epistom with grey or brown pruinosity; clypeus more or less shining 32
 - 16. Tarsomeres 2–4 of fore tarsus thickened, dorsally with a comb of long setae: **Fig.**

- 14 (Grichanov & Vikhrev, 2009: Fig. 3); Vsur broad, sausage-shaped (Grichanov & Vikhrev, 2009: Fig. 5); cercus triangular, with a blunt apical seta (Grichanov & Vikhrev, 2009: Fig. 6) ***M. varvara***
 – Tarsomeres 2–4 of fore tarsus simple 17
17. Mesonotum with yellow or brownish yellow setae; basal antennal segments yellow . . . 18
 – Mesonotum with black setae 23
18. Hind femur in basal half with a row of long av setae which are longer than half-diameter of femur: **Fig. 15** (*Fig. 785); Vsur with globose apex; Dsur with a strong, projecting dorsoapical seta (*Fig. 782); epandrial lobes basally fused, each with a flattened seta (*Fig. 783) ***M. rhombomium***
 – Hind femur without long av setae 19
19. Face yellowish brown or brownish grey; cercus with 3 strong ventral setae: **Fig. 16** (*Fig. 499); epandrial lobes completely fused, with simple setae (*Fig. 500) ***M. deserticola***
 – Face silvery white or whitish grey 20
20. Fore coxa and first tergite with simple setae 21
 – Fore coxa and first tergite with flattened or scale-like setae 22
21. Frons with light grey pruinosity. First flagellomere triangular, arista dorsoapical (*Fig. 725). Vsur slender; Dsur with a strong subapical seta; cercus almost as long as surstylus: **Fig. 17** (*Fig. 722); epandrial lobes fused, with simple setae; hypandrium very narrow, with acute apex (*Fig. 724) ***M. pallidior***
 – Frons with brownish yellow pruinosity. Arista apical ***M. araneipes***
22. Greatest distance between R_{4+5} and M about 3.5 times as their distance at wing margin; fore tibia shorter than fore tarsomeres 1 and 2 combined ***M. albisetosa***
 – Greatest distance between R_{4+5} and M about 2.5 times as their distance at wing margin; fore tibia longer than fore tarsomeres 1 and 2 combined ***M. albescens***
23. Proboscis yellow; hind tibia apically with a spine; hind basitarsus without tooth or incision; surstylus broad, surstylus with apex curved at right angle: **Fig. 18** (*Fig. 545); epandrial lobes basally fused, with two setae of different length and with a third seta near base ***M. flavirostris***
 – Proboscis brown or black 24
24. Legs entirely yellow 25
 – Legs entirely black or at least femora mainly brown or black 28
25. Fore coxa with simple setae; mesonotum with three dark longitudinal stripes; surstylus slender, slightly broadened apically, with a furcate apical seta: **Fig. 19** (*Figs 756, 758); epandrial lobes basally fused, median seta shorter and plumose (*Fig. 757) ***M. plumbella***
 – Fore coxa with flattened or scale-like setae 26
26. Second hind tarsomere 2.5 times as long as hind basitarsus; greatest distance between R_{4+5} and M about 2.5 times as their distance at wing margin; surstylus long and slender: **Fig. 20** (*Fig. 554); cercus with 3 strong ventroapical setae; epandrial lobes fused, with flattened setae (*Fig. 552) ***M. grunini***
 – Second hind tarsomere less than 2.5 times as long as hind basitarsus; greatest distance between R_{4+5} and M about 3.5 times as their distance at wing margin 27
27. Frons whitish yellow; mesonotum with brown setae; legs entirely yellow ***M. albescens lutescens***
 – Frons silvery white; mesonotum with black setae; mid tarsomere 5 and hind tarsomeres 4 and 5 black ***M. albescens albescens***
28. Basal antennal segments yellow 29
 – Basal antennal segments black 30
29. First flagellomere 1.5 times as long as its basal width; scutellum with small lateral setae in addition to a pair of strong median setae; hind tibia with a strong curved spine dorsally at apex; hind basitarsus simple; Vsur short, conical: **Fig. 21** (*Fig. 910); Hyp conical (*Fig. 908); epandrial lobes basally separated, with simple setae (*Fig. 909) ***M. turkmenorum***
 – First flagellomere about as long as its basal width; scutellum with only a pair of strong median setae; hind tibia without dorsal spine at apex; hind basitarsus basally with rounded protuberance (Grichanov, 2010: Fig. 4); Vsur long, parallel-sided: **Fig. 22** (Grichanov, 2010: Fig. 8); Hyp basally globose, tapering (Grichanov, 2010: Fig. 10); epandrial lobes basally fused, with strong flattened setae (Grichanov, 2010: Fig. 9) ***M. sfax***
30. Scutellum with small lateral setae in addition to a pair of strong marginal setae; crossvein *dm-cu* about as long as distal section of *CuA*, the latter slightly swollen ***M. turkestanica***
 – Scutellum with only one pair of strong marginal setae; crossvein *dm-cu* distinctly shorter or longer than distal section of *CuA* . . . 31

31. Crossvein *dm-cu* distinctly longer than distal section of *CuA*; Vsur with a simple apical seta: **Fig. 23** (*Fig. 669); Hyp basally 6 times as wide as apically (*Fig. 671); epandrial lobes with simple setae, bases of setae at same level (*Fig. 670) ***M. mongolica***
- Crossvein *dm-cu* distinctly shorter than distal section of *CuA*; Vsur with a furcate apical seta: **Fig. 24** (*Fig. 808); Hyp basally 3 times as wide as apically (*Fig. 807); median epandrial lobe with plumose seta, bases of setae of epandrial lobes at different levels (*Fig. 810) ***M. senicula***
32. Femora yellow; scutellum yellowish ventrally 33
- Femora dark brown at least in basal part; scutellum dark 35
33. Apical section of *M* longer than basal section; apical section of *CuA* longer than crossvein *dm-cu* ***M. arrogans***
- Apical section of *M* equal to or shorter than basal section 34
34. Setae of epandrial lobes different in length (*Fig. 464); surstylus with a short spatulate apical seta: **Fig. 25** (*Fig. 459) ***M. capitiloba***
- Setae of epandrial lobes equal in length (*Fig. 620); surstylus with a simple apical seta: **Fig. 26** (*Fig. 622) ***M. kaszabi***
35. Ppl setae black ***M. annulitarsa***
- Ppl setae white or yellow 36
36. Clypeus black; epistom shining ventrally ***M. parvicornis***
- Clypeus metallic-green, shining; epistom matt 37
37. Epandrial lobes fused; median seta plumose (*Fig. 852); Vsur straight, with a club-shaped apical seta: **Fig. 27** (*Fig. 855); Hyp slender, with acute apex (*Fig. 853) ***M. sylvestris***
- Setae of epandrial lobes not plumose 38
38. Surstyli in ventral view with pointed edges near tips of setae of epandrial lobes (*Figs 652, 655) 39
- Surstyli in ventral view with rounded edges near tip of setae of epandrial lobes (*Figs 653, 654) 40
39. Setae of epandrial lobes flattened, club-shaped, reaching pointed edge of surstyli: **Fig. 28** (*Fig. 655); surstylus and cercus as in *Fig. 656 ***M. micacea***
- Setae of epandrial lobes simple, flagelliform, not reaching pointed edge of surstyli: **Fig. 29** (*Fig. 652) ***M. verae***
40. Setae of epandrial lobes flattened, club-shaped, reaching rounded edge of surstyli: **Fig. 30** (*Fig. 654); surstylus and cercus as in *Fig. 662 ***M. mixta***
- Setae of epandrial lobes simple, flagelliform, and not reaching rounded edge of surstyli: **Fig. 31** (*Fig. 653); surstylus and cercus as in *Fig. 616 ***M. kerzhneri***
41. Three or four pairs of strong dc setae of almost equal length; second pair of dc sometimes smaller than remaining dc; sometimes a small additional pair of dc anteriorly (*Figs 376, 377) 42
- Usually more than 3–4 pairs of dc decreasing in size anteriorly; anterior dc distinctly smaller than posterior dc (*Figs 375, 378, 379) 77
42. Three pairs of dc of almost equal length; if 4 pairs of dc present, then second pair distinctly smaller than other pairs 43
- Four pairs of dc of almost equal length 52
43. Two pairs of dc in front of transverse suture, anteriormost seta small; only one sa seta 44
- One pair of dc in front of transverse suture; two sa setae 45
44. Surstylus strongly curved inwards at apex: **Fig. 32** (*Fig. 411); epandrial lobes with plumose setae (*Fig. 411); hypopygium as in *Fig. 416 ***M. bargusinica***
- Surstylus not strongly curved inwards at apex: **Fig. 33** (*Fig. 834); epandrial lobes with simple setae (*Fig. 836); surstylus and cercus as in *Fig. 833 ***M. spinulicauda***
45. Four pairs of dc, second pair distinctly smaller than other pairs 46
- Three pairs of dc of almost equal length 50
46. First flagellomere twice as long as its basal height (*Fig. 165); surstylus longer than epandrium: **Fig. 34** (*Fig. 740); cercus almost as long as surstylus, with strong claw-like apical setae (*Fig. 739) ***M. pavlovskii***
- First flagellomere shorter than its basal height 47
47. Apical section of *CuA* longer than or equal to crossvein *dm-cu*; epandrium not as high as length of tergite 5; Vsur with a small furcate subapical seta and a strong projecting lateral seta: **Fig. 35** (*Fig. 898); hypopygium as in Bickel (1985: Fig. 122) ***M. truncorum***
- Apical section of *CuA* shorter than crossvein *dm-cu*; epandrium higher than length of tergite 5 48

48. First flagellomere triangular; frons and upper part of epistom light grey; costal section between R_{2+3} and R_{4+5} about 3.5 times as long as costal section between R_{4+5} and M ; surstylus short, broadened apically, Vsur with a short leaf-like subapical seta: **Fig. 36** (*Fig. 498); hypopygium as in *Fig. 497 ***M. dendrobaena***
- First flagellomere rounded; frons and epistom dark brown; costal section between R_{2+3} and R_{4+5} about 2.5 times as long as costal section between R_{4+5} and M 49
49. Vsur with a pair of long flattened apical setae: **Fig. 37** (Rampini & Canzoneri, 1979: Fig. 3); epandrial lobes with flattened setae (Rampini & Canzoneri, 1979: Fig. 2) ***M. roghii***
- Vsur with a pair of short simple apical setae: **Fig. 38** (*Fig. 791); epandrial lobes with simple setae (*Fig. 792); hypopygium as in *Fig. 790 ***M. saxatilis***
50. Legs yellow; Dsur with a long projecting dorsal seta: **Fig. 39** (*Fig. 555); Hyp slender, parallel-sided (*Fig. 556); epandrial lobes basally fused, with simple setae ***M. gussakovskii***
- Legs brown 51
51. Face with dense grey pruinosity ***M. turkestanica***
- Face metallic-green shining, without pruinosity. Surstylus short and broad, Vsur with a thumb-like projection bearing a flattened apical seta (*Fig. 894); Hyp vase-like (*Fig. 893); hypopygium: **Fig. 40** (*Fig. 904) ***M. tuberculata***
52. One sa seta present; legs usually yellow 53
- Two sa setae present; legs of different coloration, usually not yellow 59
53. Hyp ventrally with one or higher number of small spines 54
- Hyp without spines, sometimes with an apical hook 57
54. Hyp symmetrical, ventrally with two or four small spines 55
- Hyp asymmetrical, ventrally with one small spine 56
55. Hyp with rounded apex, ventrally with four small spines: **Fig. 2** (Naglis & Negrobov, 2014a: Fig. 2B); surstylus in basal half as wide as in apical half, with a deep incision: **Fig. 1** (Naglis & Negrobov 2014a: Fig. 2A); Vsur with fringed subapical seta ***M. helvetica***
- Hyp with acute apex, ventrally with two small spines (Naglis & Negrobov, 2014b: Fig. 2B); surstylus in basal half twice as wide as in apical half, without deep incision: **Fig. 41** (Naglis & Negrobov, 2014b: Fig. 2A); Vsur with simple subapical setae ***M. campestris***
56. Hyp with curved acute apex: **Fig. 42** (Naglis & Negrobov, 2014a: Fig. 1B); surstylus with a deep incision (Naglis & Negrobov, 2014a: Fig. 1A) ***M. alpicola***
- Hyp with rounded apex: **Fig. 43** (Morge & Negrobov, 1981: Fig. 3); surstylus with a shallow incision (Morge & Negrobov, 1981: Fig. 5) ***M. negrobovi***
57. Hyp with rounded apex: **Fig. 44** (*Fig. 777); epandrial lobes different in length; Vsur with a fringed ventroapical seta (*Fig. 778) ***M. relicta***
- Hyp with acute apex; epandrial lobes equal in length; Vsur without fringed seta 58
58. Hyp with apical hook: **Fig. 45** (Naglis & Negrobov, 2014a: Fig. 3B); Vsur with finger-like apex (Naglis & Negrobov, 2014a: Fig. 3A) ***M. ticinensis***
- Hyp without apical hook: **Fig. 46** (*Fig. 415); Vsur with rectangular apex (*Fig. 423) ***M. betulae***
59. Tibiae and tarsomeres mainly yellow 60
- Tibiae and tarsomeres dark brown or black, knees sometimes yellow 66
60. Fore coxa and fore femur yellow; costal section between R_{2+3} and R_{4+5} at most twice as long as costal section between R_{4+5} and M ; epandrial lobes fused, each with a plumose seta 61
- Fore coxa and fore femur dark basally; costal section between R_{2+3} and R_{4+5} more than twice as long as costal section between R_{4+5} and M 62
61. Clypeus scarcely shining, with weak pruinosity; epistom matt; Vsur with two strong simple apical setae, Dsur without dorsoapical seta: **Fig. 47** (*Fig. 540); median seta of epandrial lobes spatulate (*Fig. 539) ***M. flavipes***
- Clypeus metallic shining, with weak pruinosity only laterally; epistom greenish grey, with some bronze tinge and with a metallic spot ventrally; Vsur with one simple and one club-shaped apical seta, Dsur with a strong dorsoapical seta: **Fig. 48** (*Fig. 638); setae of epandrial lobes flattened but not spatulate (*Fig. 639) ***M. media***

62. Clypeus metallic shining, with weak grey pruinosity; fore tibia with two strong curved ad setae; surstylus straight, Vsur with a strong apical seta and a short club-shaped subapical seta, Dsur with a strong dorsoapical seta: **Fig. 49** (*Fig. 675); epandrial lobes fused, with simple setae of different length (*Fig. 677) ***M. montana***
- Clypeus not metallic shining, clypeus and epistom with dense grey pruinosity 63
63. Basal antennal segments dirty yellow; hind femur in basal half with or without short av setae 64
- Basal antennal segments black; hind femur in basal half with a row of long av setae 65
64. Hind femur with a row of short av setae; first flagellomere triangular, with rounded apex; surstylus straight, without distinct incision (*Fig. 597, 600); epandrial lobes fused, with long simple setae of equal length: **Fig. 50** (*Fig. 598) ***M. lamprostomoides lamprostomoides***
- Hind femur without av setae; first flagellomere oval; hypopygium similar to that of *M. l. lamprostomoides*; surstylus with distinct incision: **Fig. 51** (*Fig. 609) ***M. lamprostomoides kasachstanica***
65. First flagellomere about 1.5 times as long as its basal width; face with dense grey pruinosity; mesonotum with scarcely visible longitudinal stripes; surstylus straight, without distinct incision: **Fig. 52** (*Fig. 629); epandrial lobes fused, with long simple setae of equal length (*Fig. 619); cercus with a leaf-like apical seta and ventral projection (*Fig. 629) ***M. lamprostoma***
- First flagellomere about as long as its basal width; face with dense greyish yellow pruinosity; mesonotum with distinct brown longitudinal stripes ***M. paralamprostoma***
66. Mid tibia with one pd seta; arista white in apical half ***M. ussuriانا***
- Mid tibia with a pair of ad/pd setae 67
67. Arista white in apical half; frons and face with white pruinosity, clypeus somewhat shining in middle; mesonotum whitish grey, with three brown longitudinal stripes; four white ppl setae ***M. albiseta***
- Arista entirely black 68
68. Mesonotum with three brown and two light grey longitudinal stripes 69
- Mesonotum without dark longitudinal stripes 73
69. Two pairs of dc in front of transverse suture, anterior seta small 70
- One pair of dc in front of transverse suture 72
70. Clypeus metallic shining; hind femur without long hairs anteriorly; Vsur with a strong long projecting apical seta, Dsur with a small furcate apical seta (*Fig. 749); hypopygium as in **Fig. 53** (*Fig. 750) ***M. petrophila***
- Clypeus usually with grey pruinosity (sometimes metallic shining, caused by scrubbing); hind femur with longer hairs anteriorly; Vsur without long projecting apical seta 71
71. Surstylus strongly broadened in apical half: **Fig. 54** (*Fig. 410); Dsur with one strong dorsoapical seta (*Fig. 409) ***M. armeniaca***
- Surstylus not broadened in apical half: **Fig. 55** (*Fig. 593); Dsur with two dorsoapical setae (Negrobov, 2010: Fig. 5) ***M. jacula***
72. Surstylus broadened in apical part: **Fig. 56** (*Fig. 752); Vsur with a strong long projecting apical seta and a short subapical seta, Dsur without spatulate apical seta (*Fig. 751) ***M. petrophiloides***
- Surstylus not broadened in apical part: **Fig. 57** (*Fig. 649); Vsur with a short spatulate apical seta and a strong subapical seta, Dsur with a spatulate apical seta (*Fig. 648) ***M. meridionalis***
73. Epandrium at most as high as length of tergite 4 74
- Epandrium distinctly higher than length of tergite 4 76
74. Distal section of *CuA* longer than crossvein *dm-cu*; 2 pairs of long ac; Vsur with round apex **Fig. 58** (Naglis & Negrobov 2014b, Fig. 4A); cercus with a strong, beak-like apical projection; Hyp slightly widened apically, with acute apex (Naglis & Negrobov 2014b, Fig. 4B) ***M. valaisensis***
- Distal section of *CuA* as long as or shorter than crossvein *dm-cu*; more than 10 pairs of small ac 75
75. Distal section of *CuA* as long as crossvein *dm-cu*; hind tarsomere 2 less than twice as long as basitarsus; epandrial lobes basally separated: **Fig. 59** (*Fig. 694); surstylus with a strong projecting ventral seta and a small club-shaped apical seta (*Fig. 693); hypopygium as in *Fig. 695 ***M. murina***
- Distal section of *CuA* shorter than crossvein *dm-cu*; hind tarsomere 2 more than twice as long as basitarsus; epandrial lobes basally fused (Naglis, unpublished data) ***M. tenuicauda***

76. Distal section of *CuA* about as long as crossvein *dm-cu*; Vsur with a long simple apical seta, Dsur without dorsoapical seta: **Fig. 60** (*Fig. 915); epandrial lobes with a flattened seta and a simple seta (*Fig. 917); Hyp long, fairly slender (*Fig. 918); hypopygium as in *Fig. 916 *M. victoris*
- Distal section of *CuA* shorter than crossvein *dm-cu*; Vsur with a small spatulate apical seta, Dsur with a strong dorsoapical seta: **Fig. 61** (*Fig. 793); epandrial lobes with simple setae; hypopygium as in *Fig. 789 *M. perfida*
77. Setae ac not developed 78
- Setae ac present 80
78. Femora metallic-green; mesonotum with black setae; cercus with a spatulate subapical seta (*Fig. 631) Hyp widened in apical half (*Fig. 632); hypopygium as in **Fig. 62** (*Fig. 630) *M. leucarista*
- Femora yellow; mesonotum with yellow setae 79
79. Antenna black; arista not widened apically, pedicel not broadened; Dsur as long as Vsur: **Fig. 63** (*Fig. 920); cercus with two strong claw-like subapical setae (*Fig. 922); Hyp parallel-sided in apical half (*Fig. 921) *M. zaitzevi*
- Antenna yellow; arista widened apically, pedicel broadened: **Fig. 64** (Negrobov & Naglis, 2015: Fig. 1I); Dsur longer than Vsur (Negrobov & Naglis, 2015: Fig. 1A); cercus with short flattened apical setae (Negrobov & Naglis, 2015: Fig. 1B); Hyp strongly tapered in apical half (Negrobov & Naglis, 2015: Fig. 1E) *M. emeljanovi*
80. Basal section of *CuA* with a distinct swelling (Thuneberg, 1955: Figs 47–50) 81
- Basal section of *CuA* without swelling .. 91
81. Abdomen with white hairs; mesonotum with whitish grey pruinosity 82
- Abdomen with black hairs; mesonotum with dark grey or brown pruinosity 84
82. Vsur with a fringed subapical seta: **Fig. 65** (Negrobov, 1979: Fig. 7) *M. asiatica*
- Vsur without fringed subapical seta 83
83. Aedeagus with acute subapical lateral projections: **Fig. 66** (*Figs 510, 512); surstylus with a deep incision (*Fig. 513) *M. excellens*
- Aedeagus without subapical lateral projections (*Fig. 902); hypopygium as in **Fig. 67** (*Fig. 907a) *M. thunebergi*
84. Swelling of *CuA* longer than half length of basal section 85
- Swelling of *CuA* less than half length of basal section 87
85. Fore coxa with white setae; mid femur with pale av setae, which are not longer than half-diameter of femur; Vsur straight, with strong projecting ventral seta: **Fig. 68** (*Fig. 891); Hyp parallel-sided, slightly widened apically (*Fig. 892); epandrial lobes separated *M. tuberculosa*
- Fore coxa with black setae; mid femur with long black av setae, which are longer than half-diameter of femur 86
86. Surstylus curved, Vsur with a fringed subapical seta (*Fig. 900); cercus with a strong, claw-like apical seta; Hyp widened apically (*Fig. 901); hypopygium as in **Fig. 69** (*Fig. 899) *M. tumidula*
- Surstylus straight: **Fig. 70** (Negrobov, 1979: Fig. 5); cercus with simple apical setae *M. alexandri*
87. Distal section of *CuA* at least 3 times as long as crossvein *dm-cu*; surstylus with deep cleft, Vsur rectangular, with multiple simple subapical setae: **Fig. 71** (*Fig. 568); cercus with strong flattened apical seta; Hyp subparallel, with triangular apex (*Fig. 569); hypopygium as in *Fig. 572 *M. incrassata*
- Distal section of *CuA* at most 2.5 times as long as crossvein *dm-cu* 88
88. Fore coxa with black setae; surstylus with a deep incision: **Fig. 72** (*Fig. 584), Hyp cuneiform (*Fig. 581); aedeagus with lateral spines (*Figs 580, 583); hypopygium as in *Fig. 582 *M. infuscata*
- Fore coxa with pale setae 89
89. Hyp bottle-shaped, with short ventral spines: **Fig. 73** (*Fig. 588); surstylus with deep incision (*Fig. 592); aedeagus with short spines (*Fig. 590); hypopygium as in *Fig. 589 *M. inspissata*
- Hyp not bottle-shaped, without ventral spines 90
90. Surstylus about 4 times as long as its basal width: **Fig. 74** (*Fig. 773); Hyp parallel-sided, with cuneiform apex (*Fig. 759); hypopygium as in *Fig. 762 *M. protuberans*
- Surstylus about 8 times as long as its basal width: **Fig. 75** (*Fig. 536); Hyp broadened at middle, with acute apex (*Fig. 537) *M. freyi*
91. Distal section of *CuA* more than 1.5 times as long as crossvein *dm-cu* 92
- Distal section of *CuA* at most 1.5 times as long as crossvein *dm-cu* 137

92. Basal antennal segments yellow 93
 – Basal antennal segments black 104
93. Ppl setae almost equal in length 94
 – Ppl setae different in length 95
94. Mid femur with short av setae, which are at most as long as half diameter of femur; surstylus strongly U-shaped, broadened in apical half: **Fig. 76** (*Fig. 544); epandrial lobes basally contiguous (*Fig. 543); hypopygium as in *Fig. 542 ***M. fumida***
 – Mid femur with long av setae, some of them longer than diameter of femur; surstylus slightly curved, not broadened in apical half: **Fig. 77** (*Fig. 772); epandrial lobes basally separated (*Fig. 779); hypopygium as in *Fig. 780 ***M. ravida***
95. Hind tarsomere 2 more than 1.5 times as long as basitarsus 96
 – Hind tarsomere 2 at most 1.5 times as long as basitarsus 97
96. Arista brown; postocular setae yellowish white; mid and hind femur almost bare; surstylus curved, Vsur with a short ventroapical seta: **Fig. 78** (*Fig. 482); Hyp broadened basally (*Fig. 481); epandrial lobes with setae of different length (*Fig. 484) ***M. curviloba***
 – Arista white in apical half; postocular setae brown; mid femur with a ventral row of setae, which are about half as long as diameter of femur; hind femur with long apical setae; surstylus straight, Vsur with a strong, projecting ventroapical seta: **Fig. 79** (*Fig. 492); Hyp parallel-sided (*Fig. 493); epandrial lobes with setae of equal length (*Fig. 495) ***M. delita***
97. Mesonotum with yellow or yellowish brown setae 98
 – Mesonotum with black setae 99
98. Face with dense grey pruinosity and a copper spot; 2 pairs of strong dc setae; surstylus without distinct incision, Vsur with a horn-like subapical seta: **Fig. 80** (Naglis, 2013: Fig. 2A); Hyp with globose apex and an apical tooth (Naglis, 2013: Fig. 2B) ***M. flavichaeta***
 – Face metallic-green shining; 3–4 pairs of strong dc setae; surstylus with a deep incision, Vsur with a small fringed subapical seta: **Fig. 81** (*Fig. 732); Hyp with ovate apex, without apical tooth (*Fig. 730); hypopygium as in *Fig. 731 ***M. palmaris***
99. Surstylus 12–13 times as long as its minimum width: **Fig. 82** (*Fig. 879); Vsur with a flattened fringed subapical seta; cercus strongly elongated, with a claw-like apical seta; Hyp parallel-sided, with acute apex (*Fig. 880); hypopygium as in *Fig. 878 ***M. taurica***
 – Surstylus at most 8 times as long as its minimum width 100
100. Scutum with about 13 additional small setae between sr and anterior dc 101
 – Scutum at most with 5–6 small setae between sr and anterior dc 103
101. Vsur with bilobate apex, with a thumb-like subapical seta: **Fig. 83** (*Fig. 635); hypopygium as in *Fig. 634 ***M. longicauda***
 – Vsur with rounded apex, without thumb-like subapical seta 102
102. Vsur with a flattened fringed subapical seta (Negrobov & Golubtsov, 1991: Fig. 1b); Hyp continuously widened from base: **Fig. 84** (Negrobov & Golubtsov, 1991: Fig. 1c); hypopygium (Negrobov & Golubtsov, 1991: Fig. 1a) ***M. bidentata***
 – Vsur with a simple subapical seta: **Fig. 85** (Negrobov & Golubtsov, 1991: Fig. 2b); Hyp widened in apical fifth (Negrobov & Golubtsov, 1991: Fig. 2c); hypopygium as in Negrobov & Golubtsov (1991: Fig. 2a) ***M. mucronata***
103. Vsur triangularly widened, with simple setae (*Fig. 586); Hyp widened in apical third, with acute apex (*Fig. 585); hypopygium as in **Fig. 86** (*Fig. 587) ***M. insignis***
 – Vsur subparallel, with a small fringed subapical seta: **Fig. 87** (*Fig. 718); Hyp subparallel, with rounded apex (*Fig. 721); hypopygium as in *Fig. 719 ***M. pallens***
104. At least tibiae yellow 105
 – Legs including tibiae dark brown or black 112
105. Setae ac not developed; Vsur straight, with a flattened branched subapical seta: **Fig. 88** (*Fig. 565); cercus with a claw-like apical projection and a spatulate subapical projection; Hyp parallel-sided, with conical apex (*Fig. 567) ***M. hissarica***
 – Setae ac well-developed 106
106. Mid femur with long av setae, which are at least as long as half-diameter of femur ... 107
 – Mid femur without long av setae 109
107. Epandrial lobes basally separated, with simple setae; surstylus strongly U-shaped, Vsur with a flattened fringed subapical seta: **Fig. 89** (Naglis & Negrobov, 2014b: Fig. 3A); Hyp with conical apex: **Fig. 90** (Naglis & Negrobov, 2014b: Fig. 3B) ***M. curvipygga***

- Epandrial lobes basally fused 108
- 108. Ppl setae equal in length; hind basitarsus with a small tooth; Hyp narrow; surstylus straight, Vsur with simple apical setae (*Fig. 688); epandrial lobes basally fused, with plumose setae (*Fig. 690); hypopygium as in **Fig. 91** (*Fig. 696) *M. nebulosa*
- Ppl setae different in length; hind basitarsus without small tooth; Hyp with globularly swollen apex *M. rufipes*
- 109. First flagellomere triangular, with dorsal arista; scutum with 7–8 pairs of ac posterior to imaginary line between pm; surstylus slender, curved, with a deep incision: **Fig. 92** (*Fig. 461); Hyp with broad rectangular apex (*Fig. 467); epandrial lobes separated, with simple setae of equal length (*Fig. 468); hypopygium as in *Fig. 465 *M. hymera*
- First flagellomere usually oval, with apical or subapical arista; scutum usually with 4–5 pairs of ac posterior to imaginary line between pm 110
- 110. Dsur as long as Vsur (*Fig. 729); Hyp slender, with ovally widened apex (*Fig. 727); hypopygium as in **Fig. 93** (*Fig. 728) *M. pallipes*
- Dsur longer than Vsur; Hyp without ovally widened apex 111
- 111. Epandrial lobe with a flattened bifurcate seta (Masunaga & Saigusa, 1998: Fig. 4C); cercus with a blade-like apical projection and a thumb-like dorsal projection (Masunaga & Saigusa, 1998: Fig. 4B); hypopygium as in: **Fig. 94** (Masunaga & Saigusa, 1998: Fig. 4A) *M. luteipes*
- Epandrial lobes with simple setae (*Fig. 636); Hyp with triangular apex: **Fig. 95** (*Fig. 637) *M. lorea*
- 112. Epistom matt, with dense grey pruinosity 113
- Epistom shining at least ventrally 114
- 113. Legs entirely black; halter brownish yellow; second hind tarsomere 2.5 times as long as basitarsus; surstylus strongly broadened in apical half: **Fig. 96** (*Fig. 429); epandrial lobes basally separated, with simple setae; cercus with two claw-like apical projections; Hyp parallel-sided, slightly widened in apical part, with acute apex (*Fig. 421) *M. bisecta*
- Legs brown, knees yellow; halter yellow; second hind tarsomere 1.5 times as long as basitarsus *M. glauca*
- 114. Scutum with 3–4 small additional setae between sr and anterior dc 115
- Scutum with more than 5 small additional setae between sr and anterior dc 117
- 115. Cercus with an apical projection which is half as long as subapical projection (Naglis, 2013: Fig. 3A); Vsur with simple subapical seta; Hyp with an apical tooth: **Fig. 97** (Naglis, 2013: Fig. 3B) *M. olegi*
- Cercus with an apical projection which is longer than or equal to subapical projection; Vsur with fringed subapical seta; Hyp without apical tooth 116
- 116. Postocular setae brown; cercus with an apical projection which is longer than subapical projection (*Fig. 548); Hyp with triangular apex (*Fig. 550); aedeagus with semicircular incision subapically (*Fig. 547); hypopygium as in **Fig. 98** (*Fig. 551) *M. gracilicauda*
- Postocular setae white; cercus with an apical projection which is as long as subapical projection (*Fig. 681); Hyp with ovate apex (*Fig. 680); aedeagus without incision subapically (*Fig. 683); hypopygium as in **Fig. 99** (*Fig. 679) *M. morgei*
- 117. Halter brown 118
- Halter yellow 125
- 118. Distal section of CuA 3 times as long as crossvein *dm-cu*; surstylus broad, massive, with a small incision and 3 strong subapical setae (*Fig. 763); Hyp subparallel, with obtuse apex (*Fig. 764); hypopygium as in **Fig. 100** (*Fig. 765) *M. prjachinae*
- Distal section of CuA about twice as long as crossvein *dm-cu* 119
- 119. Mid femur ventrally bare 120
- Mid femur ventrally with a row of short setae 122
- 120. Surstylus strongly curved, U-shaped, half as broad as epandrium: **Fig. 101** (Negrobov & Capecki, 1977: Fig. 3); Vsur fan-shaped, with two strong lateral setae; Dsur as broad as Vsur, with a strong lateral seta (Negrobov & Capecki, 1977: Fig. 1); Hyp broad, parallel-sided (Negrobov & Capecki, 1977: Fig. 4); aedeagus apically with a deep semicircular incision and a dorsal lobe (Negrobov & Capecki, 1977: Fig. 2) *M. polonica*
- Surstylus straight or slightly curved, at most one-third as broad as epandrium 121
- 121. Surstylus slightly curved, about one-third as long as epandrium; Dsur with a long projecting dorsal seta (Masunaga & Saigusa, 1998: Fig. 5C); cercus with 3 strong projecting ventral setae (Masunaga & Saigusa, 1998: Fig. 5B); hypopygium as in **Fig. 102**

- (Masunaga & Saigusa, 1998: Fig. 5A)
 *M. nakamurai*
- Surstylus straight, about half as long as epandrium; Dsur with a small dorsal seta: **Fig. 103** (*Fig. 412); hypopygium as in *Fig. 413.
 *M. baicalica*
122. Face blue-violet shining; surstylus about 7 times as long as its basal width: **Fig. 104** (Naglis & Negrobov, 2014b: Fig. 1A); incision between Vsur and Dsur half as long as surstylus; Hyp slightly widened apically, with acute apex: **Fig. 105** (Naglis & Negrobov, 2014b: Fig. 1B) *M. caeruleifacies*
- Face metallic-green shining, sometimes with brown pruinosity; surstylus at most 5 times as long as its basal width; incision between Vsur and Dsur at most one-third as long as surstylus 123
123. Aedeagus simple, with slender pointed apex (*Figs 871, 873); Vsur with strong subapical setae (*Fig. 869); Hyp with triangular apex (*Fig. 870); hypopygium as in **Fig. 106** (*Fig. 872) *M. takagii*
- Aedeagus with bifurcate apex or with a subapical spine 124
124. Aedeagus with bifurcate pointed apex (*Fig. 887); Vsur with strong furcate subapical seta (*Fig. 888); Hyp slightly broadened apically (*Fig. 886); hypopygium as in **Fig. 107** (*Fig. 884) *M. tristis*
- Aedeagus with subapical spine and truncate apex (*Fig. 863); Vsur with smaller, simple subapical seta (*Fig. 862); Hyp with conical apex (*Fig. 860); hypopygium as in **Fig. 108** (*Fig. 859) *M. subtristis*
125. Mid femur without long av setae 126
- Mid femur with av setae which are longer than half-diameter of femur 127
126. Surstylus in front of epandrial lobes with basoventral conical process: **Fig. 109** (*Fig. 627); Hyp with tapered apex (*Fig. 611)
 *M. krivosheinae*
- Surstylus in front of epandrial lobes without basoventral conical process: **Fig. 110** (*Fig. 405); Hyp with blunt apex (*Fig. 407); Vsur with a small, fringed subapical seta; hypopygium as in *Fig. 404 *M. apicalis*
127. Hind femur without long av setae, but with strong anterior setae in apical half; surstylus strongly U-shaped 128
- Hind femur with long av setae, which are at least as long as half-diameter of femur; surstylus not strongly U-shaped 129
128. Surstylus with a flattened fringed subapical seta: **Fig. 89** (Naglis & Negrobov, 2014b: Fig. 3A); Hyp with conical apex: **Fig. 90** (Naglis & Negrobov, 2014b: Fig. 3B)
 *M. curvipygga*
- Surstylus with simple subapical seta: **Fig. 111** (*Fig. 575); Hyp with semicircular apex (*Fig. 573); hypopygium as in *Fig. 574
 *M. impigra*
129. Postocular setae brown or black 130
- Postocular setae yellow or white 133
130. Vsur with a flattened fringed subapical seta (*Fig. 396); Hyp strongly broadened apically, with semicircular apex and dark sickle-shaped apical patch: **Fig. 112** (*Fig. 397); hypopygium as in *Fig. 398 *M. abstrusa*
- Vsur with simple subapical seta 131
131. Face blue-violet shining; Hyp with acute apex: **Fig. 105** (Naglis & Negrobov, 2014b: Fig. 1B); surstylus long and slender, with incision half as long as surstylus: **Fig. 104** (Naglis & Negrobov, 2014b: Fig. 1A)
 *M. caeruleifacies*
- Face metallic-green shining; Hyp with broadened or rectangular apex 132
132. Surstylus with basoventral conical process: **Fig. 113** (*Fig. 394); Hyp with broadened rounded apex, with a dark patch
 *M. acanthura*
- Surstylus without basoventral conical process: **Fig. 114** (*Fig. 768); Hyp with rectangular apex (*Fig. 766) ... *M. pseudoapicalis*
133. Vsur with a flattened fringed subapical seta 134
- Vsur with simple subapical seta 135
134. Fringed subapical seta on Vsur broad, flag-like (*Figs 795–796); apical third of Hyp slightly broadened, subparallel: **Fig. 115** (*Fig. 799) *M. seguyi seguyi*
- Fringed subapical seta on Vsur slender (*Fig. 803); apical third of Hyp strongly broadened, globose: **Fig. 116** (*Fig. 804)
 *M. seguyi sphaeroidea*
135. Abdomen with white hairs. Surstylus curved, with a deep cleft, about 5 times as long as its basal width: **Fig. 117** (*Fig. 606); Hyp with spatulate apex (*Fig. 608)
 *M. jugalis*
- Abdomen with black hairs 136
136. Vsur without rounded ventral lobe (*Fig. 436); Hyp with ovate apex (*Fig. 435); hypopygium as in **Fig. 118** (*Fig. 434)
 *M. borealis*
- Vsur with rounded ventral lobe: **Fig. 119** (Negrobov & Naglis, 2015: Fig. 2A); Hyp with circular apex (Negrobov & Naglis, 2015: Fig. 2D) *M. sakhalinensis*

137. Basal antennal segments yellow 138
 – Basal antennal segments brown or black 157
138. Halter brown at least in basal part 139
 – Halter yellow 147
139. Distal section of *M* straight 140
 – Distal section of *M* curved 143
140. Mid femur with av setae shorter than half-diameter of femur; surstylus slightly curved, not distinctly divided into Dsur and Vsur: **Fig. 120** (*Fig. 843); cercus with simple setae; Hyp cuneiform (*Fig. 845); epandrial lobes basally separated, with setae of equal length (*Fig. 846); hypopygium as in *Fig. 847 ***M. striata***
- Mid femur with av setae usually longer than half-diameter of femur 141
141. Hind tarsomere 2 about 1.5 times as long as basitarsus; surstylus straight, parallel-sided, with short but distinct incision: **Fig. 121** (*Fig. 601); Hyp broad, with lateral appendages and triangular apex (*Fig. 604); aedeagus with a long slender apicoventral projection (*Fig. 603); hypopygium as in *Fig. 602 ***M. japonica***
- Hind tarsomere 2 less than 1.5 times as long as basitarsus 142
142. Distal section of *M* longer than basal section; Dsur straight, shorter than Vsur (*Fig. 817); aedeagus apically with a deep incision (*Figs 813, 815); hypopygium as in **Fig. 122** (*Fig. 812) ***M. setiventris***
- Distal section of *M* about as long as basal section; Dsur curved, longer than Vsur: **Fig. 123** (*Fig. 514); aedeagus apically without incision (*Fig. 516) ***M. fasciata***
143. Mid femur with av setae, which are about half as long as diameter of femur; surstylus curved, parallel-sided, with short incision: **Fig. 124** (*Fig. 868); Hyp widened in basal third, with acute apex (*Fig. 865); aedeagus S-shaped apically (*Fig. 864); hypopygium as in *Fig. 866 ***M. sutshanica***
- Mid femur without av setae 144
144. Postocular setae brown or black 145
 – Postocular setae yellow 146
145. Body length less than 3 mm; Hyp with widened, semicircular apex (*Fig. 928); surstylus short and broad, Vsur with a deep cleft (*Fig. 925); aedeagus with acute lateral projections (*Fig. 924); hypopygium as in **Fig. 125** (*Fig. 927) ***M. zinovjevi***
- Body length more than 3 mm; Hyp with ovate or tapered apex (Yang, 1999: Fig. 3); surstylus long and narrow, Vsur without a deep cleft; hypopygium as in Yang (1999: Fig. 4) ***M. xizangensis***
146. Epandrium medially of epandrial lobes with two hook-like projections: **Fig. 126** (Figs 469, 476); hypopygium as in *Fig. 475 ***M. complicata***
- Epandrium medially of epandrial lobes without hook-like projection (*Fig. 823); hypopygium as in **Fig. 127** (*Fig. 826) ***M. signaticornis***
147. Postocular setae brown or black 148
 – Postocular setae yellow or white 149
148. Surstylus half as long as epandrium: **Fig. 128** (*Fig. 748); cercus with long projecting dorsal setae, which are longer than diameter of cercus (*Fig. 747) ***M. penicillata***
- Surstylus almost as long as epandrium: **Fig. 129** (*Fig. 508); cercus with dorsal setae shorter than diameter of cercus (*Fig. 507) ***M. dichrocera***
149. Hind femur with a row of long ad setae in basal half and long anterior or av setae at least in apical third 150
 – Hind femur without long anterior setae 155
150. Arista about three times as long as antennal segments combined; hind tibia apically with a strong curved ad spine or with several curved ad setae 151
 – Arista about twice as long as antennal segments combined; hind tibia apically without curved ad spine and without curved ad setae 154
151. Hind tibia apically with one strong curved ad spine; surstylus parallel-sided (*Fig. 699); Vsur with a small multifurcate subapical seta (*Fig. 700); Hyp with ovally broadened apex: **Fig. 130** (*Fig. 692); cercus with a flattened, leaf-like apical projection (*Fig. 697) ***M. nitida***
- Hind tibia apically with two curved spine-like ad setae; surstylus strongly broadened apically 152
152. Hind femur with long av setae along almost entire length; Vsur with simple setae (*Fig. 472); Hyp strongly broadened apically: **Fig. 131** (*Fig. 470) ***M. collarti***
- Hind femur with long av setae only in apical third; Vsur with at least one long flattened seta 153
153. Dsur with a strong claw-like apical seta: **Fig. 132** (*Fig. 840); Hyp with globular apex (*Fig. 841) ***M. stackelbergiana***

- Dsur with a simple apical seta (*Fig. 433); Hyp with ovate apex: **Fig. 133** (*Fig. 427) ... *M. bispinosa*
- 154. Surstylus with a narrow incision: **Fig. 134** (*Fig. 716); Hyp basally three times as broad as apically, with lateral hook-like projections (*Fig. 710); aedeagus in lateral view S-shaped in apical part (*Fig. 714); cercus with a flattened fringed subapical seta (*Fig. 711) ... *M. obscura*
- Surstylus with a deep rounded cleft: **Fig. 135** (*Fig. 703); Hyp basally twice as broad as apically, without lateral hook-like projections (*Fig. 709); aedeagus in lateral view straight in apical part (*Fig. 702); hypopygium as in *Fig. 706 ... *M. occultans*
- 155. Hyp parallel-sided, with rectangular apex and lateral lobes: **Fig. 136** (*Fig. 522); epandrial lobes different in length (*Fig. 523); surstylus curved, Vsur with rectangular apex (*Fig. 525); hypopygium as in *Fig. 524 ... *M. fascinator*
- Hyp widened apically, with rounded apex, without lateral lobes; epandrial lobes almost equal in length ... 156
- 156. Surstylus longer than epandrium: **Fig. 137** (*Fig. 440); Hyp apically with two round lobes (*Fig. 438); aedeagus in ventral view gradually narrowed towards apex (*Fig. 439) ... *M. adjaniae*
- Surstylus shorter than epandrium: **Fig. 138** (*Fig. 754); Hyp apically semicircular (*Fig. 745); aedeagus in ventral view widened in apical third (*Fig. 746) ... *M. pinicola*
- 157. Mid tibia with only one pd seta ... *M. unisetosa*
- Mid tibia with a pair of ad/pd setae ... 158
- 158. Ppl setae unequal in length ... 159
- Ppl setae strong, almost equal in length ... 163
- 159. Halter brown; surstylus not distinctly separated into Vsur and Dsur, with long curved median setae (*Figs 485, 488); cercus narrow, curved, with acute apex; Hyp vase-like: **Fig. 139** (*Fig. 486); aedeagus with acute lateral projections (*Fig. 487) ... *M. cuspidata*
- Halter yellow ... 160
- 160. Fore coxa and fore femur with black setae; mid femur with long av setae ... 161
- Fore coxa and fore femur with white or yellow setae ... 162
- 161. Surstylus curved, with a long incision: **Fig. 140** (Negrobov, 1979: Fig. 6); Hyp with widened apex; epandrium cuneiform; epandrial lobes with simple setae ... *M. educata*
- Surstylus straight, without distinct incision: **Fig. 141** (*Fig. 455); Hyp with narrow apex (*Fig. 456); epandrium oval (*Fig. 457); epandrial lobes with plumose setae (*Fig. 458) ... *M. capillata*
- 162. Frons with dense grey pruinosity; surstylus strongly curved: **Fig. 142** (*Fig. 529); Hyp parallel-sided, with blunt apex (*Fig. 528); hypopygium as in *Fig. 527 ... *M. feminina*
- Frons metallic-green shining; surstylus straight in basal half: **Fig. 143** (*Fig. 736); Hyp cuneiform, with acute apex (*Fig. 734); hypopygium as in *Fig. 735 ... *M. parenti*
- 163. At least tibiae yellow ... 164
- Legs black, only knees sometimes yellow ... 169
- 164. Clypeus metallic shining, without pruinosity; surstylus straight, without distinct incision, with a small flattened apical seta: **Fig. 144** (*Fig. 505); cercus with a spatulate apical seta; Hyp long and slender, with acute apex (Bickel, 1985: Fig. 120); hypopygium as in *Fig. 506 and in Bickel (1985: Fig. 119) ... *M. diadema*
- Clypeus with pruinosity at least laterally ... 165
- 165. Arista white in apical part; surstylus curved, with distinct incision, Vsur with a small fringed subapical seta: **Fig. 145** (*Fig. 533); Hyp widened in apical third, with ovate apex (*Fig. 534); hypopygium as in *Fig. 532 ... *M. fissa*
- Arista black ... 166
- 166. Scutum with one sa seta at either side; epandrial lobes fused basally, with simple setae; surstylus short and straight: **Fig. 146** (*Fig. 626) ... *M. latipennis*
- Scutum with two sa setae at either side, anterior seta sometimes small ... 167
- 167. Epandrial lobes with simple setae: **Fig. 147** (*Fig. 831); surstylus straight, Vsur with a flattened apical seta (*Fig. 828); Hyp long and slender (*Fig. 829) ... *M. sphaeropyga*
- Epandrial lobes each with a plumose seta ... 168
- 168. Plumose seta of epandrial lobes not widened at the middle: **Fig. 148** (*Fig. 839) ... *M. stylata*
- Plumose seta of epandrial lobes widened at the middle: **Fig. 149** (Masunaga & Saigusa, 1998: Fig. 2C); hypopygium as in Masunaga & Saigusa (1998: Fig. 2A) ... *M. gotohorum*
- 169. Halter brown or black ... 170
- Halter yellow ... 174

170. Fore tarsomeres shortened and broadened; fore tarsus about as long as fore tibia *M. brevitarsa*
- Fore tarsomeres simple; fore tarsus distinctly longer than fore tibia 171
171. Hind femur with several long setae, which are about one-third as long as diameter of femur; Vsur shorter than Dsur, truncate, with several strong apical setae (*Fig. 913); cercus with three long, projecting apical setae; Hyp cuneiform, with acute apex (*Fig. 912); hypopygium as in **Fig. 150** (*Fig. 911) *M. vagans*
- Hind femur without long setae 172
172. Surstylus with semicircular dorsal lobe; Vsur with rectangular apex and a finger-like projection: **Fig. 151** (*Fig. 875); hypopygium as in *Fig. 874 *M. tarasovae*
- Surstylus without dorsal lobe 173
173. Surstylus curved, with a deep incision; Vsur with a small fringed subapical seta: **Fig. 152** (*Fig. 819); epandrial lobes basally separated, with simple setae; Hyp basally as wide as apically (*Fig. 820); hypopygium as in *Fig. 821 *M. sibirica*
- Surstylus straight, without distinct incision; Vsur with simple small spine-like apical setae (*Fig. 577); epandrial lobes basally fused, with plumose setae; hypopygium as in **Fig. 153** (*Fig. 579) *M. infumata*
174. Clypeus blue-violet shining, without pruinosity; distal section of *CuA* shorter than crossvein *dm-cu*; surstylus straight, without distinct incision; Dsur with a strong, projecting subapical seta: **Fig. 154** (*Fig. 403); Hyp broad in basal third, narrow and parallel-sided in distal two-thirds (*Fig. 400); epandrial lobes basally separated but contiguous (*Fig. 402); hypopygium as in *Fig. 401 *M. ambigua*
- Clypeus usually with pruinosity; distal section of *CuA* usually longer than crossvein *dm-cu* 175
175. Hind basitarsus basally without tooth 176
- Hind basitarsus basally with a small tooth 177
176. Four black ppl setae of about equal length; upper postocular setae black; surstylus broad, massive, with deep incision: **Fig. 155** (*Fig. 642); Hyp basally broad, parallel-sided, with rectangular apex (*Fig. 647); hypopygium as in *Fig. 644 *M. melancholica*
- One strong and 2–3 smaller yellow ppl setae; upper postocular setae yellow .. *M. oscillans*
177. Mesonotum without brown longitudinal stripes; setae of epandrial lobes at same level and of same length: **Fig. 156** (*Fig. 444); surstylus without distinct incision, with ovate apical lobe bearing a small bifurcate seta (*Fig. 445) *M. brunea*
- Mesonotum with brown longitudinal stripes; setae of epandrial lobes not at same level and/or different in length 178
178. Epandrial lobes as long as their setae: **Fig. 157** (*Fig. 424) *M. jakuta*
- Epandrial lobes shorter than their setae 179
179. Epandrial lobes with plumose setae: **Fig. 158** (Bickel, 1985: Fig. 143) *M. veles*
- Epandrial lobes with simple setae 180
180. Epandrial lobes with setae of equal length: **Fig. 159** (*Fig. 425); surstylus not distinctly divided into Dsur and Vsur, with ovate apical lobe (*Fig. 426) *M. bilineata*
- Epandrial lobes with setae of different length: **Fig. 160** (Masunaga & Saigusa, 1998: Fig. 2C); surstylus distinctly divided into Dsur and Vsur, without apical lobe; hypopygium as in Masunaga & Saigusa (1998: Fig. 2A) *M. flavigena*

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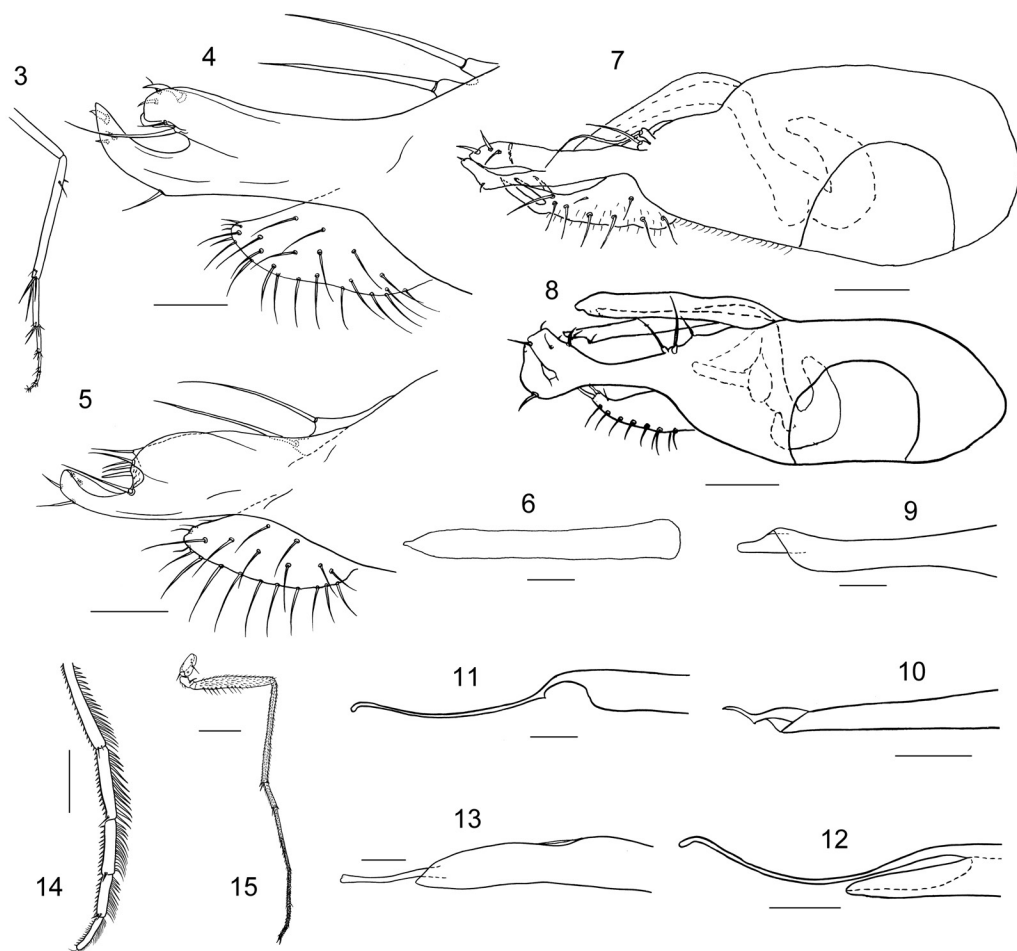
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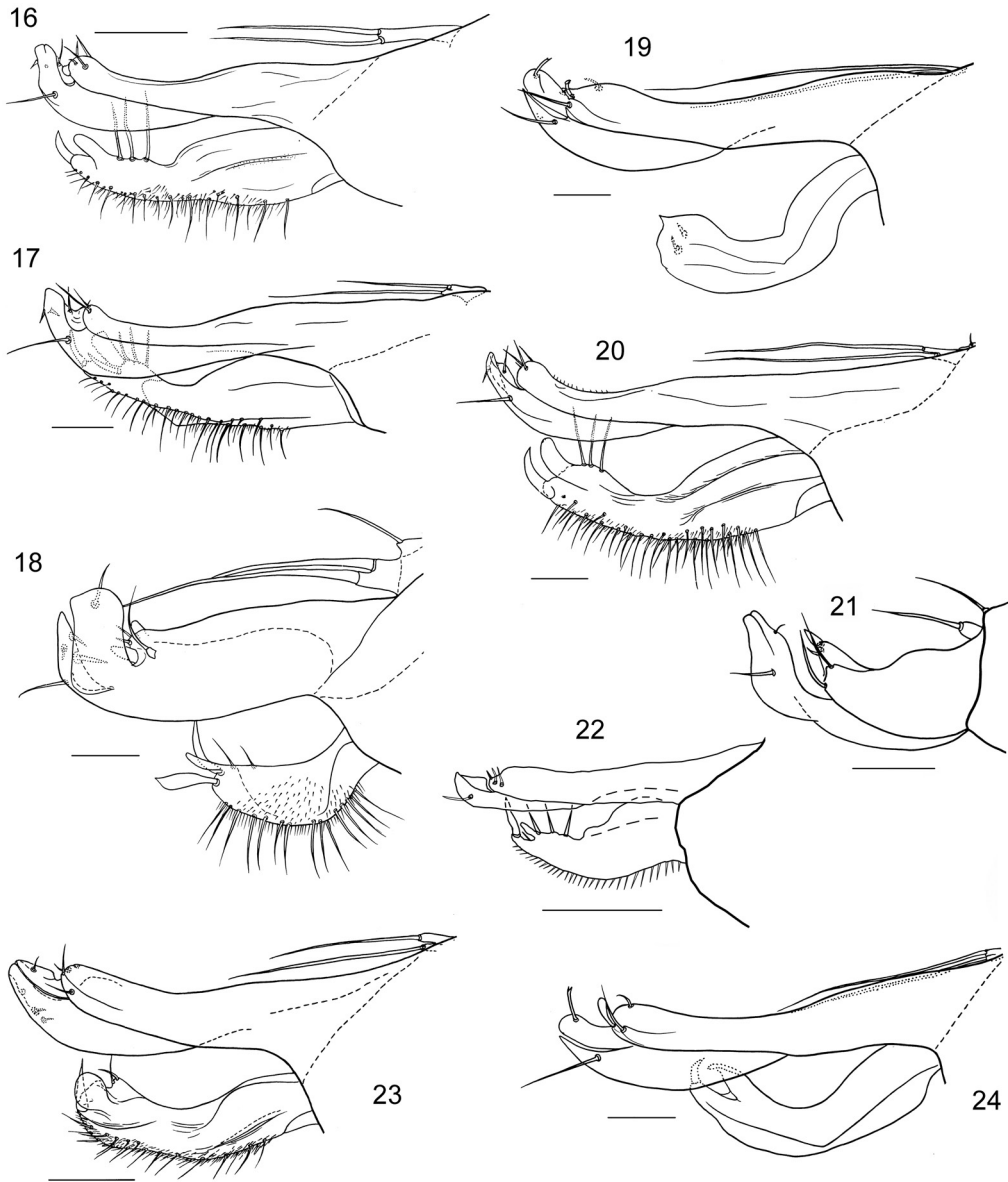
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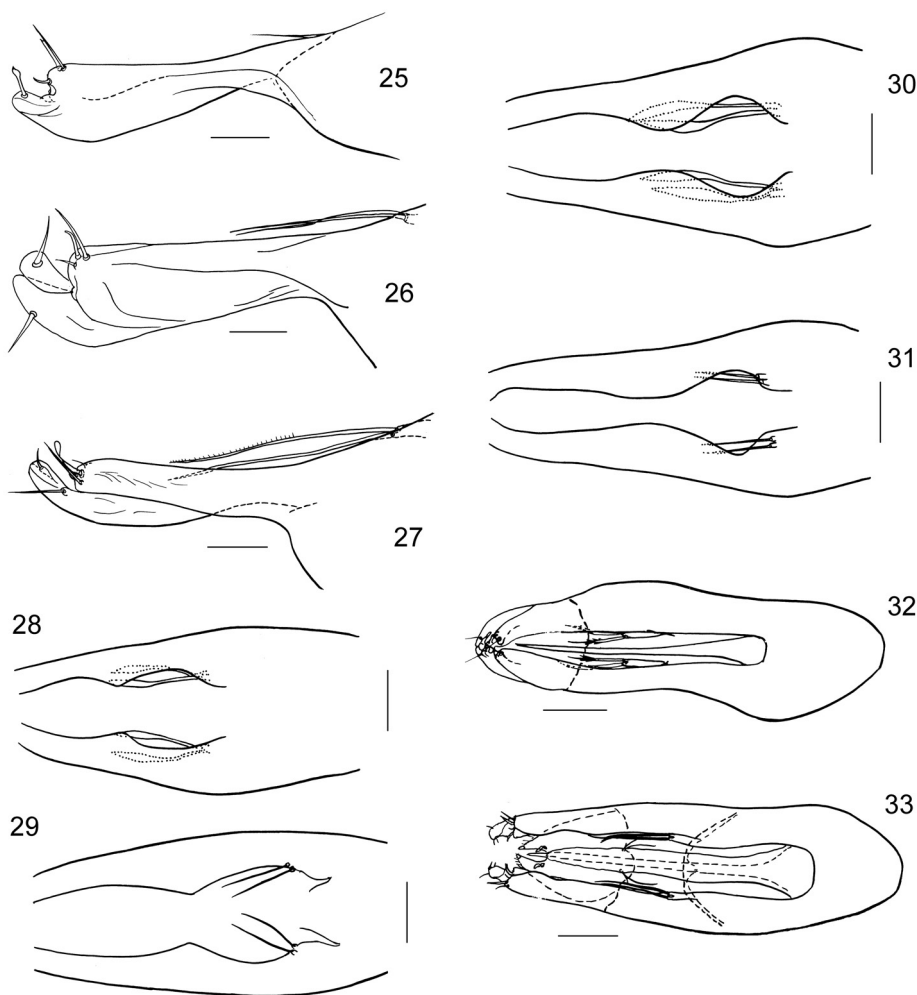
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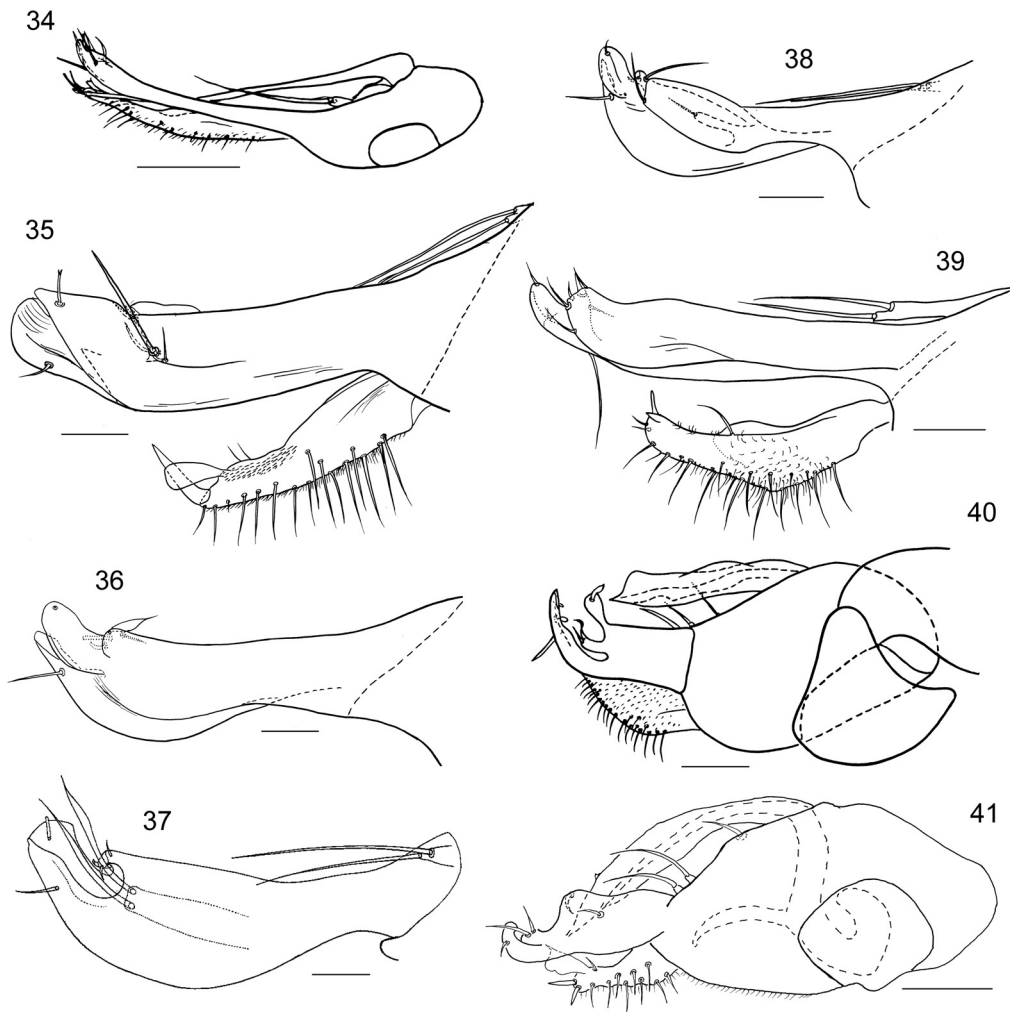
Figs 3–15. *Medetera* spp. **3**, *M. vlasovi* Stackelberg, mid leg; **4**, *M. zimini* Negrobov, apical part of hypopygium, in lateral view; **5**, *M. spinigera* Stackelberg, apical part of hypopygium, in lateral view; **6**, *M. glaucelloides* Naglis, hypandrium, in ventral view; **7**, *M. glaucella* Kowarz, hypopygium, in lateral view; **8**, *M. incisa* Negrobov, hypopygium, in lateral view; **9**, *M. kowarzi* Negrobov, aedeagus, in lateral view; **10**, *M. belgica* Parent, aedeagus, in lateral view; **11**, *M. muralis* Meigen, aedeagus, in lateral view; **12**, *M. peloria* Negrobov, aedeagus, in lateral view; **13**, *M. miki* Negrobov, aedeagus, in lateral view; **14**, *M. varvara* Grichanov et Vikhrev, fore tarsus; **15**, *M. rhombomium* Stackelberg, hind femur (3–5, 8–10, from Negrobov & Stackelberg, 1974a; 6, from Naglis, 2013; 7, from Naglis & Negrobov, 2014; 11–13, 15, from Negrobov & Stackelberg, 1974b; 14, from Grichanov & Vikhrev, 2009). Scale: **4, 5, 10, 11**, 0.05 mm; **6, 9, 10, 13**, 0.03 mm; **7, 8**, 0.1 mm; **14**, 0.2 mm; **15**, 0.3 mm.



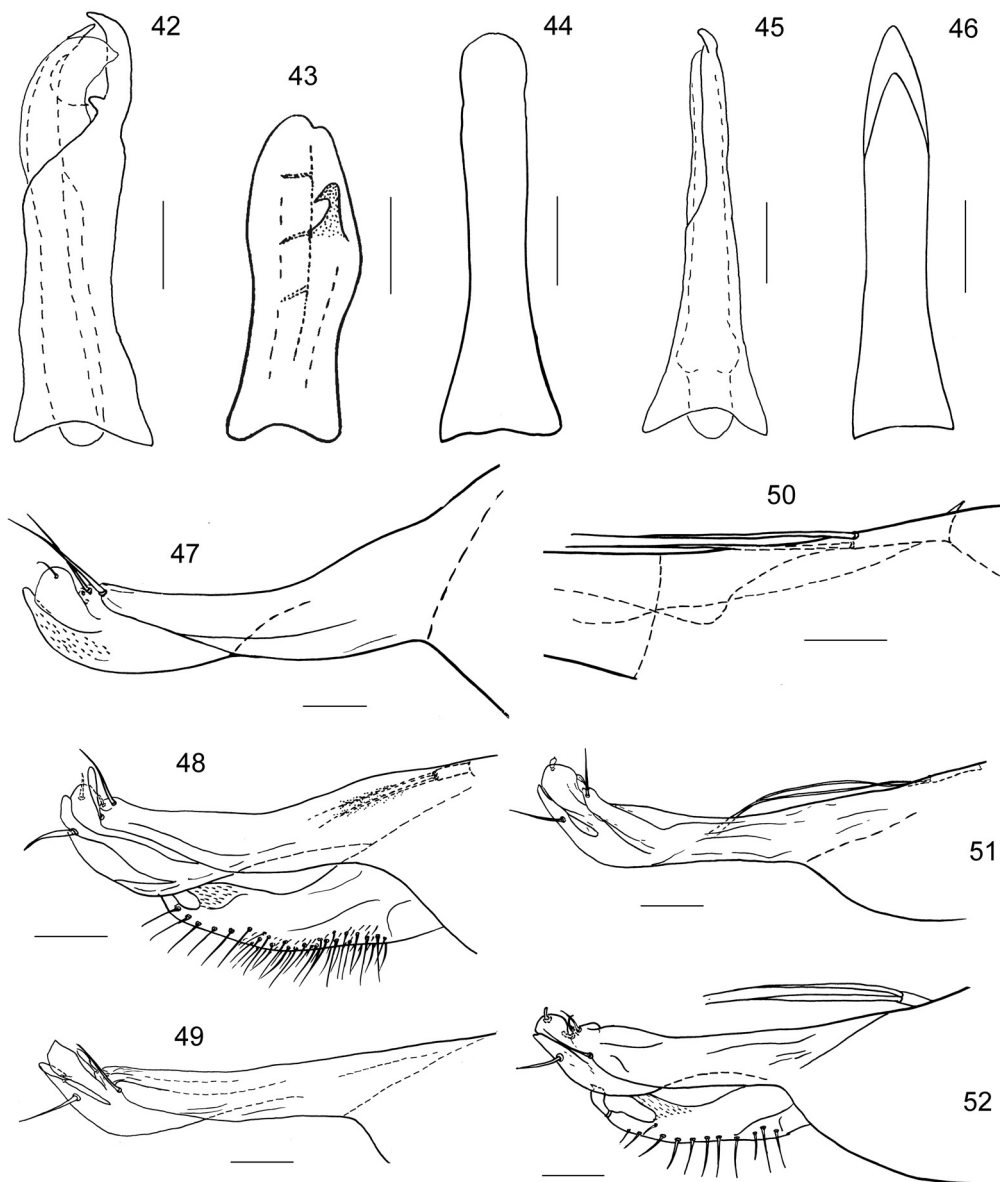
Figs 16–24. *Medetera* spp. **16**, *M. deserticola* Stackelberg, apical part of hypopygium, in lateral view; **17**, *M. pallidior* Stackelberg, apical part of hypopygium, in lateral view; **18**, *M. flavirostris* Negrobov, apical part of hypopygium, in lateral view; **19**, *M. plumbella* Meigen, apical part of hypopygium, in lateral view; **20**, *M. grunini* Negrobov, apical part of hypopygium, in lateral view; **21**, *M. turkmenorum* Stackelberg, surstylus, in lateral view; **22**, *M. sfax* Grichanov, apical part of hypopygium, in lateral view; **23**, *M. mongolica* Negrobov, apical part of hypopygium, in lateral view; **24**, *M. senicula* Kowarz, apical part of hypopygium, in lateral view (16, 18, 20, from Negrobov & Stackelberg, 1974a; 17, 19, 23, 24, from Negrobov & Stackelberg, 1974b; 21, from Negrobov & Stackelberg, 1977; 22, from Grichanov, 2010). Scale: **16**, **19**, **21**, **23**, **24**, 0.1 mm; **17**, **18**, **20**, 0.05 mm; **22**, 0.2 mm.



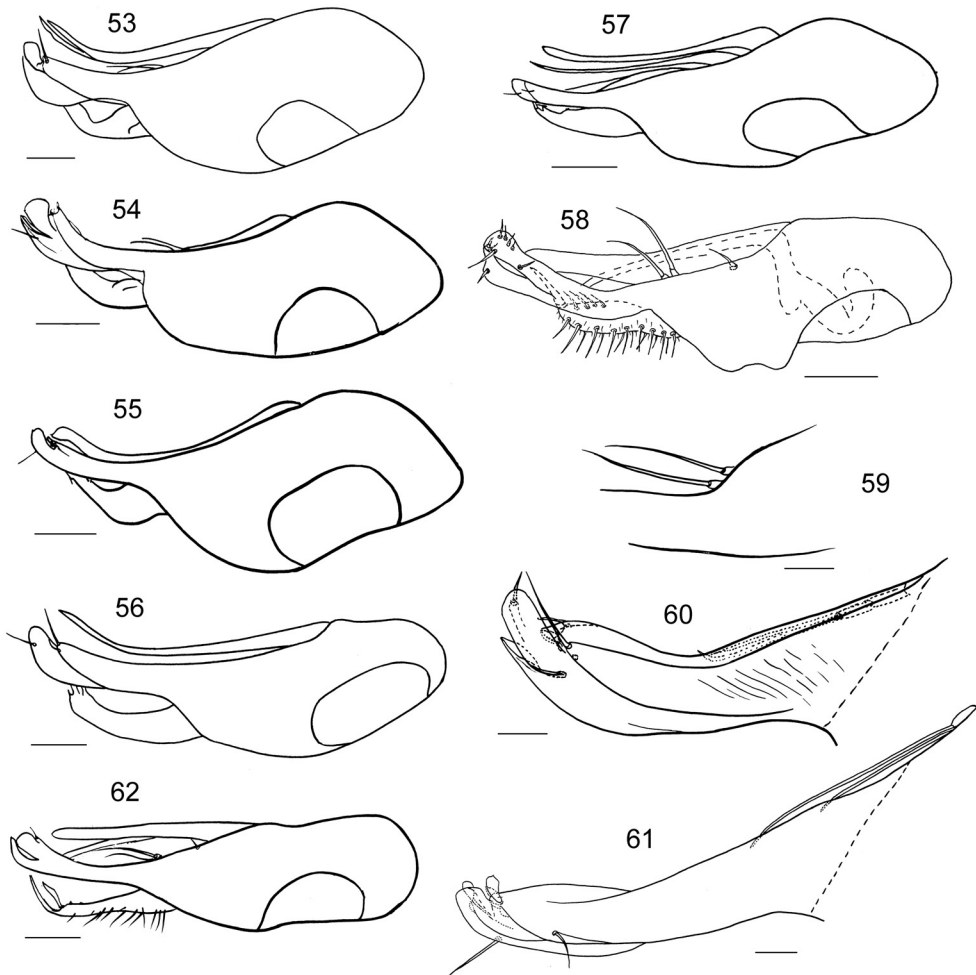
Figs 25–33. *Medetera* spp. **25**, *M. capitiloba* Negrobov, surstylus, in lateral view; **26**, *M. kaszabi* Negrobov, surstylus, in lateral view; **27**, *M. sylvestris* Becker, surstylus, in lateral view; **28**, *M. micacea* Loew, surstylus, in ventral view; **29**, *M. verae* Negrobov, surstylus, in ventral view; **30**, *M. mixta* Negrobov, surstylus, in ventral view; **31**, *M. kerzhneri* Negrobov, surstylus, in ventral view; **32**, *M. bargus-nica* Negrobov, hypopygium, in ventral view; **33**, *M. spinulicauda* Negrobov, hypopygium, in ventral view (25, 32, from Negrobov & Stackelberg, 1974a; 26, 28–31, 33, from Negrobov & Stackelberg, 1974b; 27, from Negrobov & Stackelberg, 1977). Scale: **25–27**, 0.05 mm; **28–33**, 0.05 mm.



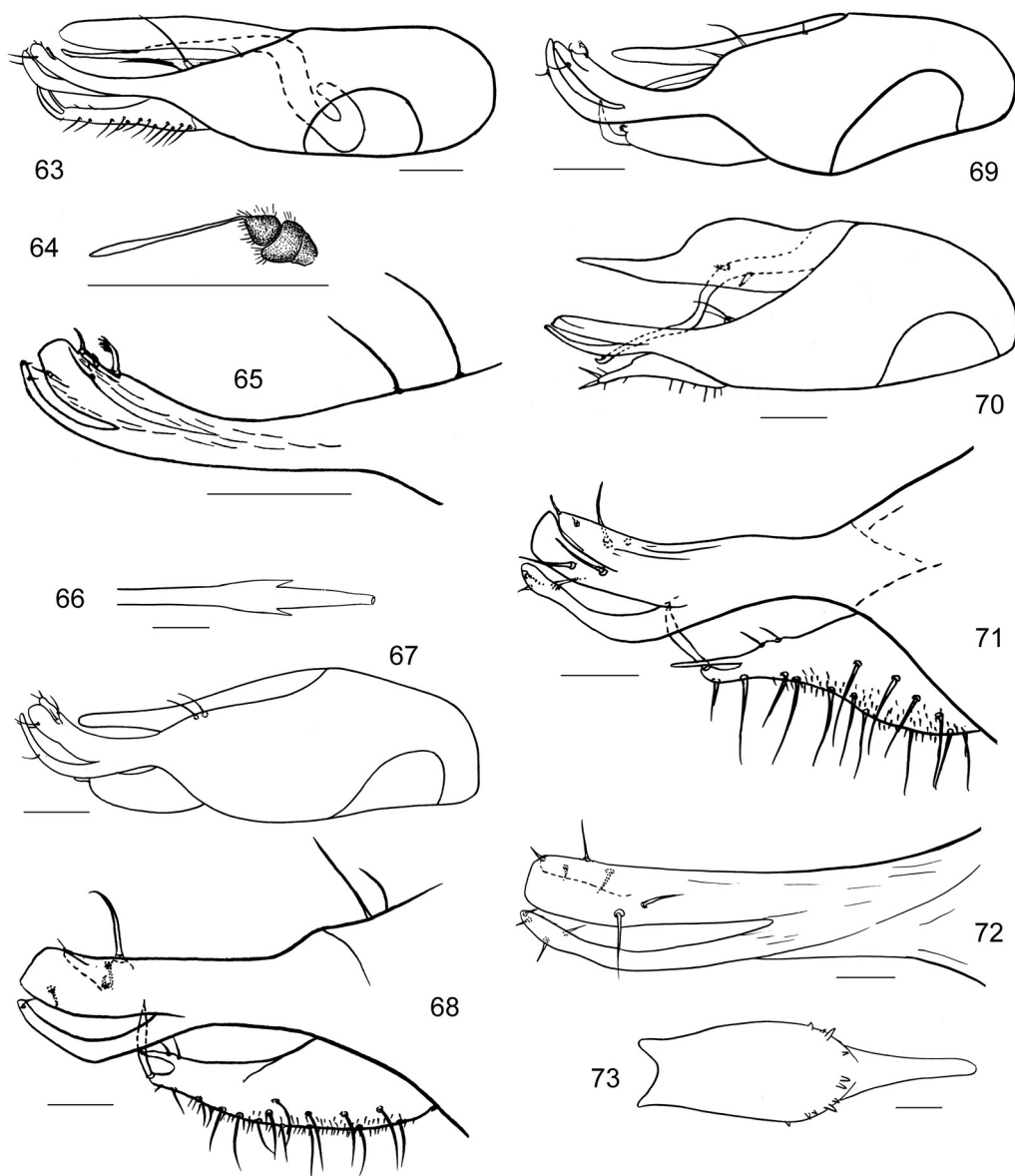
Figs 34–41. *Medetera* spp. **34**, *M. pavlovskii* Negrobov, hypopygium, in lateral view; **35**, *M. truncorum* Meigen, apical part of hypopygium, in lateral view; **36**, *M. dendrobaena* Kowarz, surstylus, in lateral view; **37**, *M. roghii* Rampini et Canzoneri, surstylus, in lateral view; **38**, *M. saxatilis* Collin, surstylus, in lateral view; **39**, *M. gussakovskii* Negrobov, apical part of hypopygium, in lateral view; **40**, *M. tuberculata* Negrobov, hypopygium, in lateral view; **41**, *M. campestris* Naglis et Negrobov, hypopygium, in lateral view (34, 38, from Negrobov & Stackelberg, 1974b; 36, 39, from Negrobov & Stackelberg, 1974a; 35, 40, from Negrobov & Stackelberg, 1977; 37, from Rampini & Canzoneri, 1979; 41, from Naglis & Negrobov, 2014). Scale: **34**, 0.02 mm; **35**, **38**, **39**, 0.05 mm; **36**, **37**, 0.2 mm; **40**, **41**, 0.1 mm.



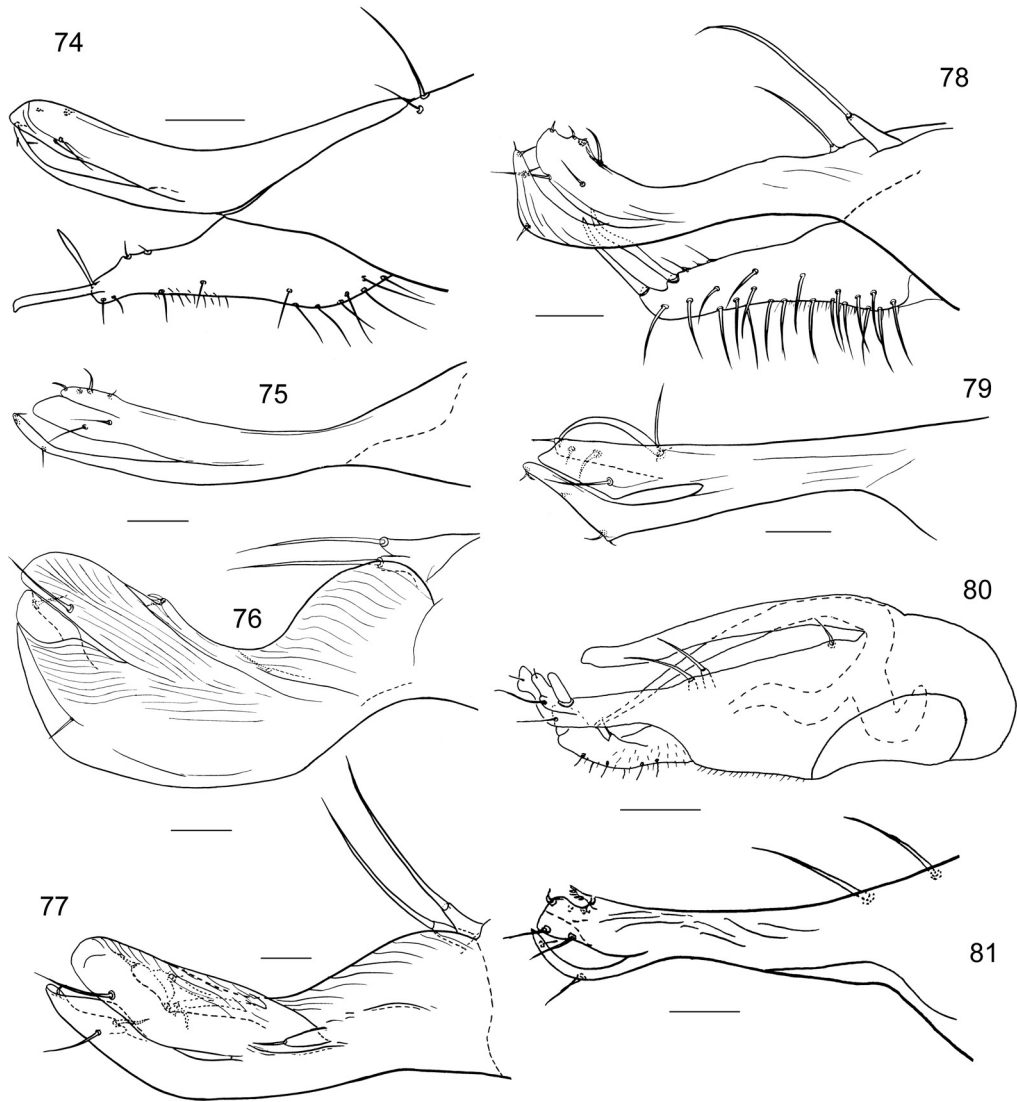
Figs 42–52. *Medetera* spp. **42**, *M. alpicola* Naglis et Negrobov, hypandrium, in ventral view; **43**, *M. negrobovi* Gossieres, hypandrium, in ventral view; **44**, *M. relict* Negrobov, hypandrium, in ventral view; **45**, *M. ticinensis* Naglis et Negrobov, hypandrium, in ventral view; **46**, *M. betulae* Ringdahl, hypandrium, in ventral view; **47**, *M. flavipes* Meigen, surstylus, in lateral view; **48**, *M. media* Parent, apical part of hypopygium, in lateral view; **49**, *M. montana* Negrobov, surstylus, in lateral view; **50**, *M. lamprostomoides lamprostomoides* Negrobov, epandrial lobes, in ventral view; **51**, *M. lamprostomoides kashachstanica* Negrobov, surstylus, in lateral view; **52**, *M. lamprostoma* Loew, apical part of hypopygium, in lateral view (42,45, from Naglis & Negrobov, 2014; 43, from Morge & Negrobov, 1981; 44, 48, 49, from Negrobov & Stackelberg, 1974b; 46, 47, 50, 51, from Negrobov & Stackelberg, 1974a). Scale: **42**, **44–46**, **48**, **52**, 0.1 mm; **43**, **47**, **49–51**, 0.05 mm.



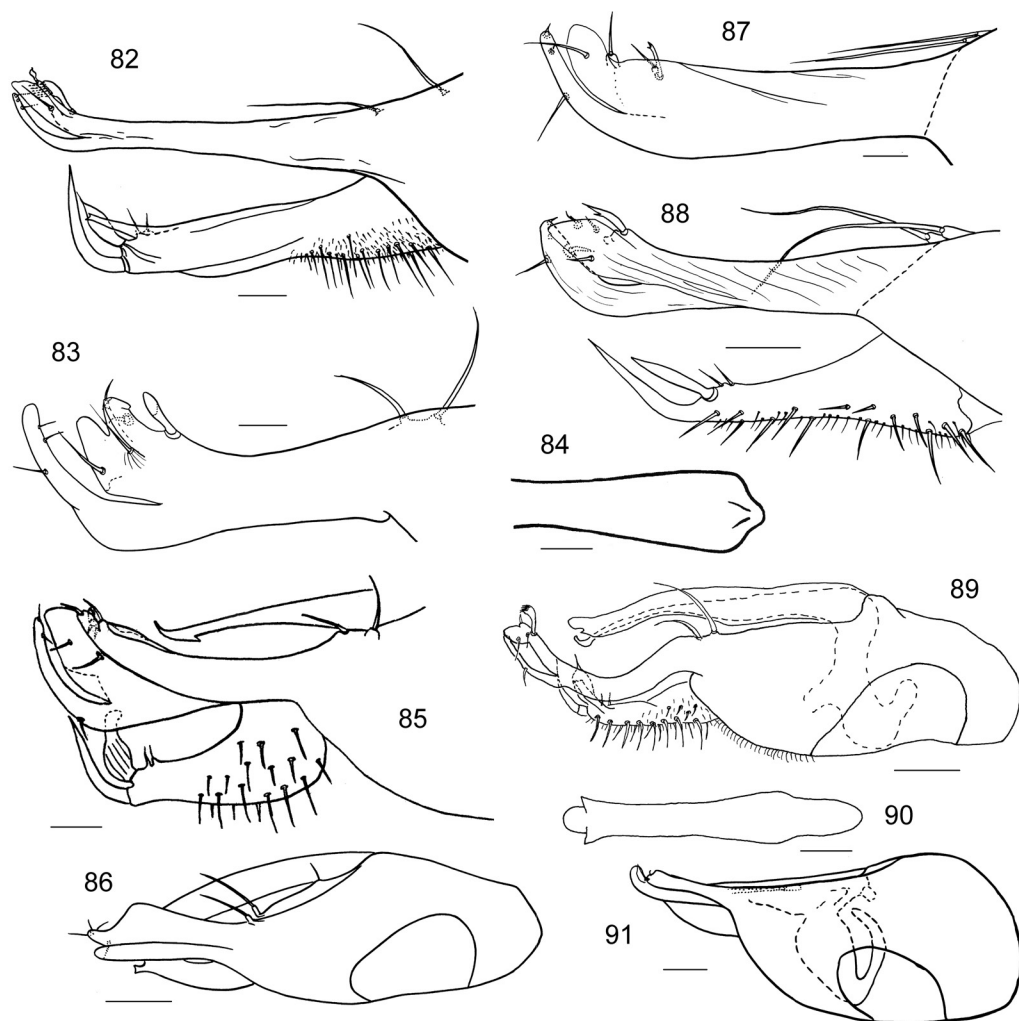
Figs 53–62. *Medetera* spp. **53**, *M. petrophila* Kowarz, hypopygium, in lateral view; **54**, *M. armeniaca* Negrobov, hypopygium, in lateral view; **55**, *M. jacula* Fallén, hypopygium, in lateral view; **56**, *M. petrophiloides* Parent, hypopygium, in lateral view; **57**, *M. meridionalis* Negrobov, hypopygium, in lateral view; **58**, *M. valaisensis* Naglis et Negrobov, hypopygium, in lateral view; **59**, *M. murina* Becker, epanthridial lobes, in ventral view; **60**, *M. victoris* Negrobov, surstylus, in lateral view; **61**, *M. perfida* Parent, surstylus, in lateral view; **62**, *M. leucarista* Stackelberg, hypopygium, in lateral view (53, 56, 57, 59, 61, 62, from Negrobov & Stackelberg, 1974b; 54, 55, from Negrobov & Stackelberg, 1974a; 58, from Naglis & Negrobov, 2014; 60, from Negrobov & Stackelberg, 1977). Scale: **53**, **54**, **57**, 0.2 mm; **55**, **56**, **58**, **62**, 0.1 mm; **59–61**, 0.05 mm.



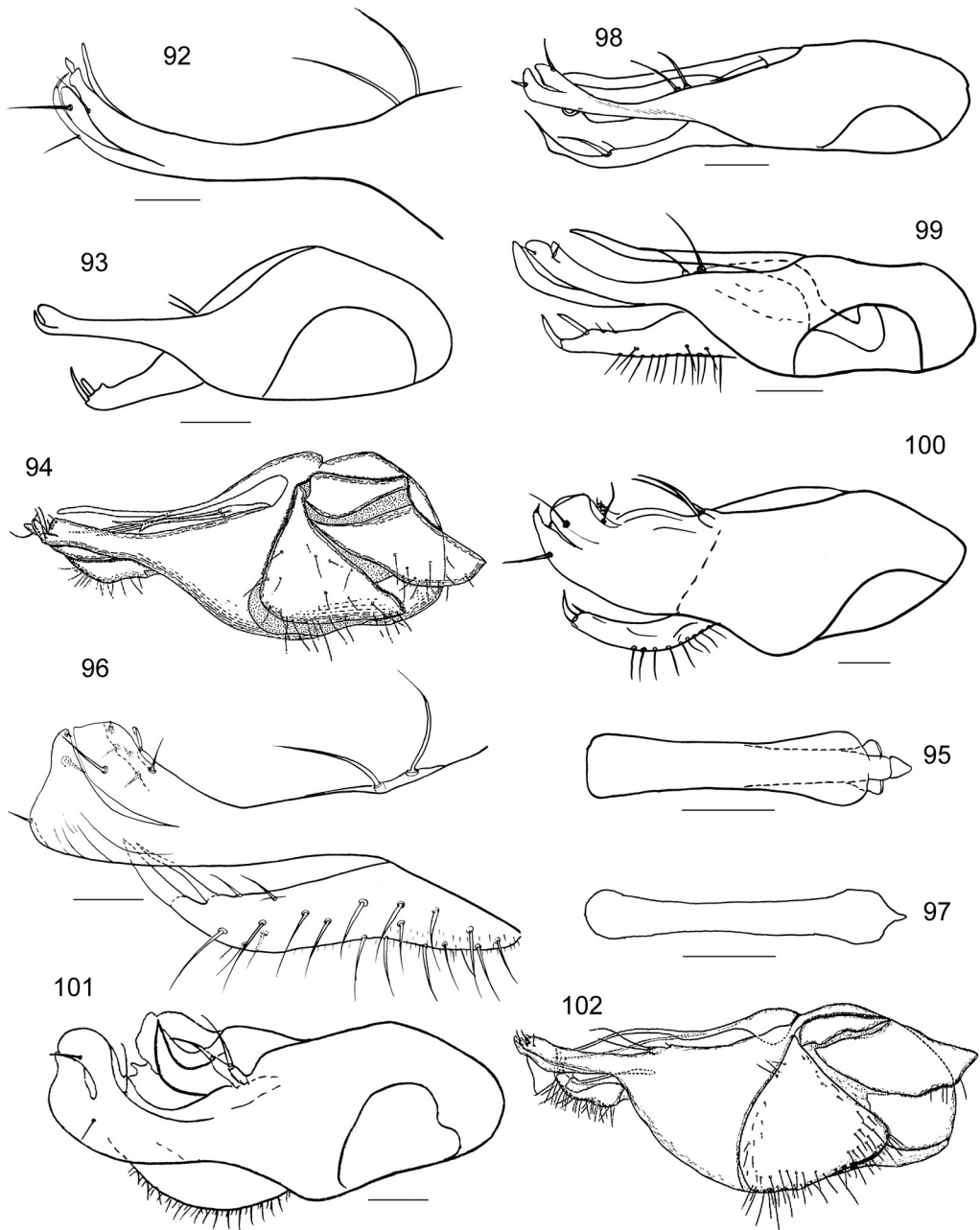
Figs 63–73. *Medetera* spp. **63**, *M. zaitzevi* Negrobov, hypopygium, in lateral view; **64**, *M. emeljanovi* Negrobov et Naglis, antenna, in lateral view; **65**, *M. asiatica* Negrobov et Zaitzev, surstylus, in lateral view; **66**, *M. excellens* Frey, aedeagus, in ventral view; **67**, *M. thunebergi* Negrobov, hypopygium, in lateral view; **68**, *M. tuberculosa* Negrobov, apical part of hypopygium, in lateral view; **69**, *M. tumidula* Negrobov, hypopygium, in lateral view; **70**, *M. alexandri* Negrobov, hypopygium, in lateral view; **71**, *M. incrassata* Frey, apical part of hypopygium, in lateral view; **72**, *M. infusata* Negrobov, surstylus, in lateral view; **73**, *M. inspissata* Collin, hypandrium, in ventral view (63, 67, 68, 69, from Negrobov & Stackelberg, 1977; 64, from Negrobov & Naglis, 2015; 65, 70, from Negrobov, 1979; 66, 71, 72, 73, from Negrobov & Stackelberg, 1974a). Scale: **63**, **65**, **67**, **69**, **70**, 0.1 mm; **64**, 0.5 mm; **66**, **72**, **73**, 0.05 mm; **68**, 0.02 mm; **71**, 0.2 mm.



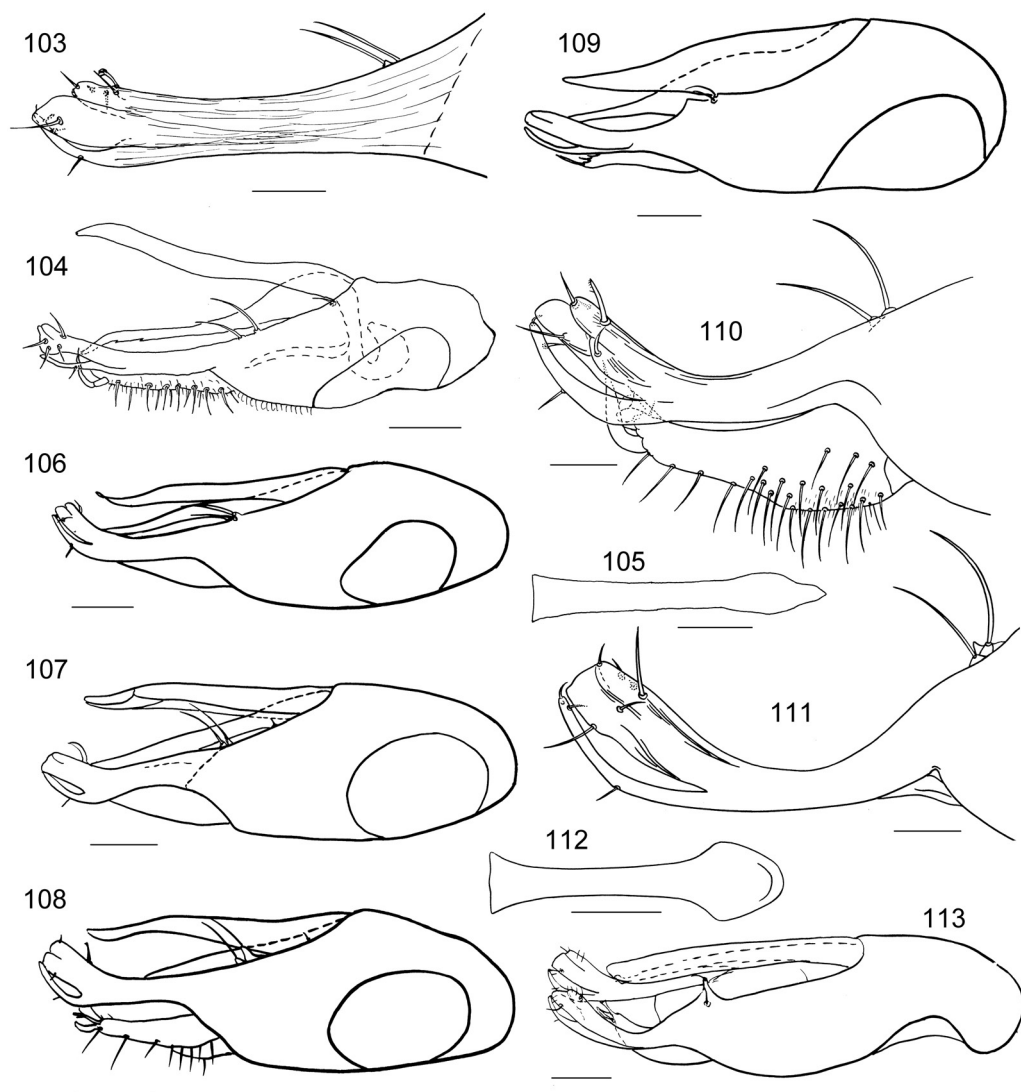
Figs 74–81. *Medetera* spp. **74**, *M. protuberans* Negrobov, apical part of hypopygium, in lateral view; **75**, *M. freyi* Thunberg, surstylus, in lateral view; **76**, *M. fumida* Negrobov, surstylus, in lateral view; **77**, *M. ravida* Negrobov, surstylus, in lateral view; **78**, *M. curviloba* Negrobov, apical part of hypopygium, in lateral view; **79**, *M. delita* Negrobov, surstylus, in lateral view; **80**, *M. flavichaeta* Naglis, hypopygium, in lateral view; **81**, *M. palmaris* Negrobov surstylus, in lateral view (74, 77, 81, from Negrobov & Stackelberg, 1974b; 75, 76, 78–80, from Negrobov & Stackelberg, 1974a). Scale: **74**, **80**, 0.1 mm; **75**, **79**, 0.03 mm; **76**, **78**, 0.05 mm; **77**, **81**, 0.02 mm.



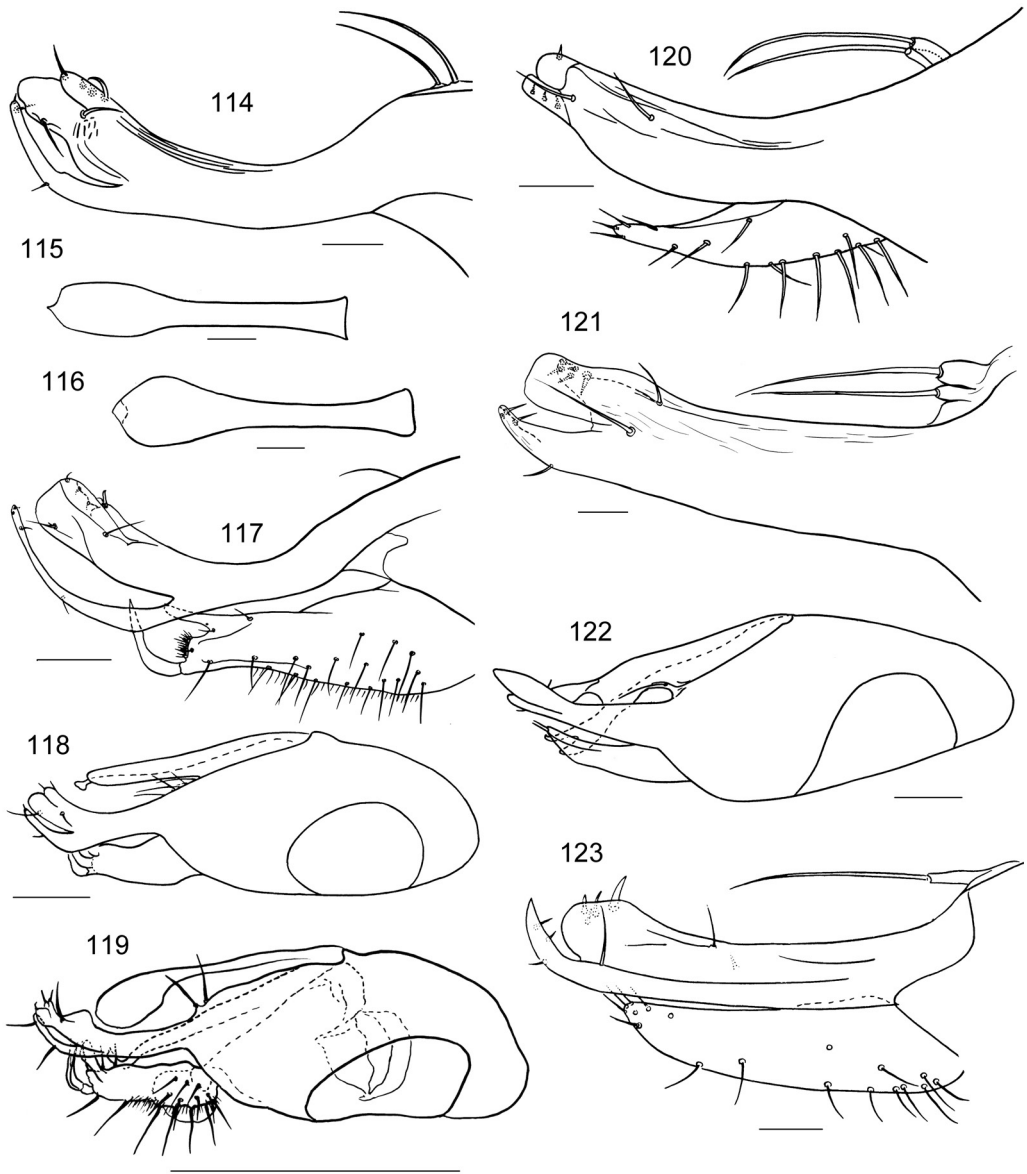
Figs 82–91. *Medetera* spp. **82**, *M. taurica* Negrobov, apical part of hypopygium, in lateral view; **83**, *M. longicauda* Becker, surstylus, in lateral view; **84**, *M. bidentata* Negrobov et Golubtzov, hypandrium, in ventral view; **85**, *M. mucronata* Negrobov et Golubtzov, apical part of hypopygium, in lateral view; **86**, *M. insignis* Girschner, hypopygium, in lateral view; **87**, *M. pallens* Negrobov, surstylus, in lateral view; **88**, *M. hissarica* Negrobov, apical part of hypopygium, in lateral view; **89**, *M. curvipygga* Naglis et Negrobov, hypopygium, in lateral view; **90**, *M. curvipygga* Naglis et Negrobov hypandrium, in ventral view; **91**, *M. nebulosa* Negrobov, hypopygium, in lateral view (82, from Negrobov & Stackelberg, 1977; 83, 87, 91, from Negrobov & Stackelberg, 1974b; 84, 85, from Negrobov & Golubtzov, 1991; 86, 88, 89, 90, from Negrobov & Stackelberg, 1974a). Scale: **82**, 0.02 mm; **83**, 0.03 mm; **84**, **85**, **87**, **88**, 0.05 mm; **86**, **89–91**, 0.1 mm.



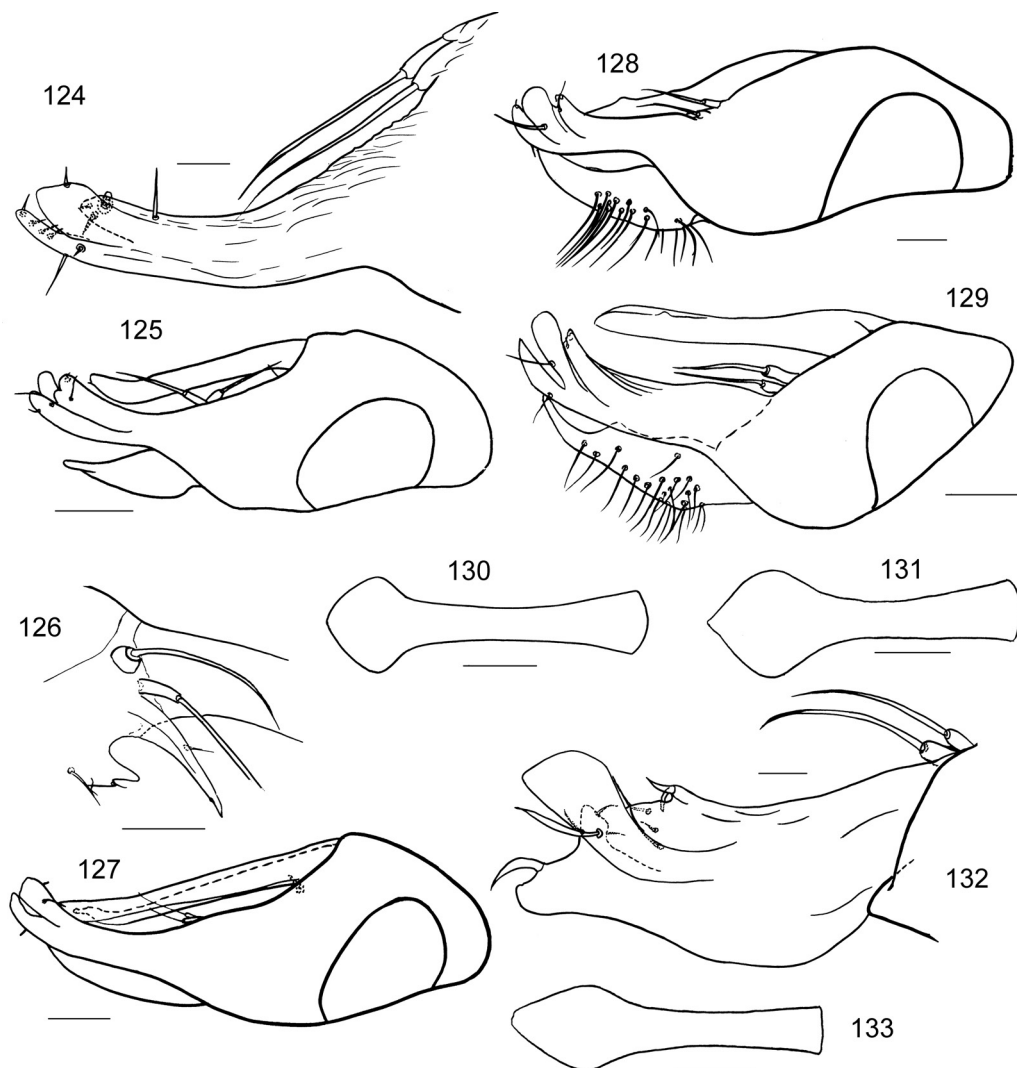
Figs 92–102. *Medetera* spp. **92**, *M. hymera* Negrobov, surstylus, in lateral view; **93**, *M. pallipes* Zetterstedt, hypopygium, in lateral view; **94**, *M. luteipes* Masunaga et Saigusa, hypopygium, in lateral view; **95**, *M. lorea* Negrobov, hypandrium, in ventral view; **96**, *M. bisecta* Negrobov, apical part of hypopygium, in lateral view; **97**, *M. olegi* Naglis, hypandrium, in ventral view; **98**, *M. gracilicauda* Parent, hypopygium, in lateral view; **99**, *M. morgei* Negrobov, hypopygium, in lateral view; **100**, *M. prjachinae* Negrobov, hypopygium, in lateral view; **101**, *M. polonica* Negrobov et Capecki, hypopygium, in lateral view; **102**, *M. nakamurai* Masunaga et Saigusa, hypopygium, in lateral view (92, 96, 98, from Negrobov & Stackelberg, 1974a; 93, 95, 99–101, from Negrobov & Stackelberg, 1974b; 94, 102, from Masunaga & Saigusa, 1998; 97, from Naglis, 2013). Scale: **92, 96, 100**, 0.05 mm; **93, 95, 97–101**, 0.1 mm.



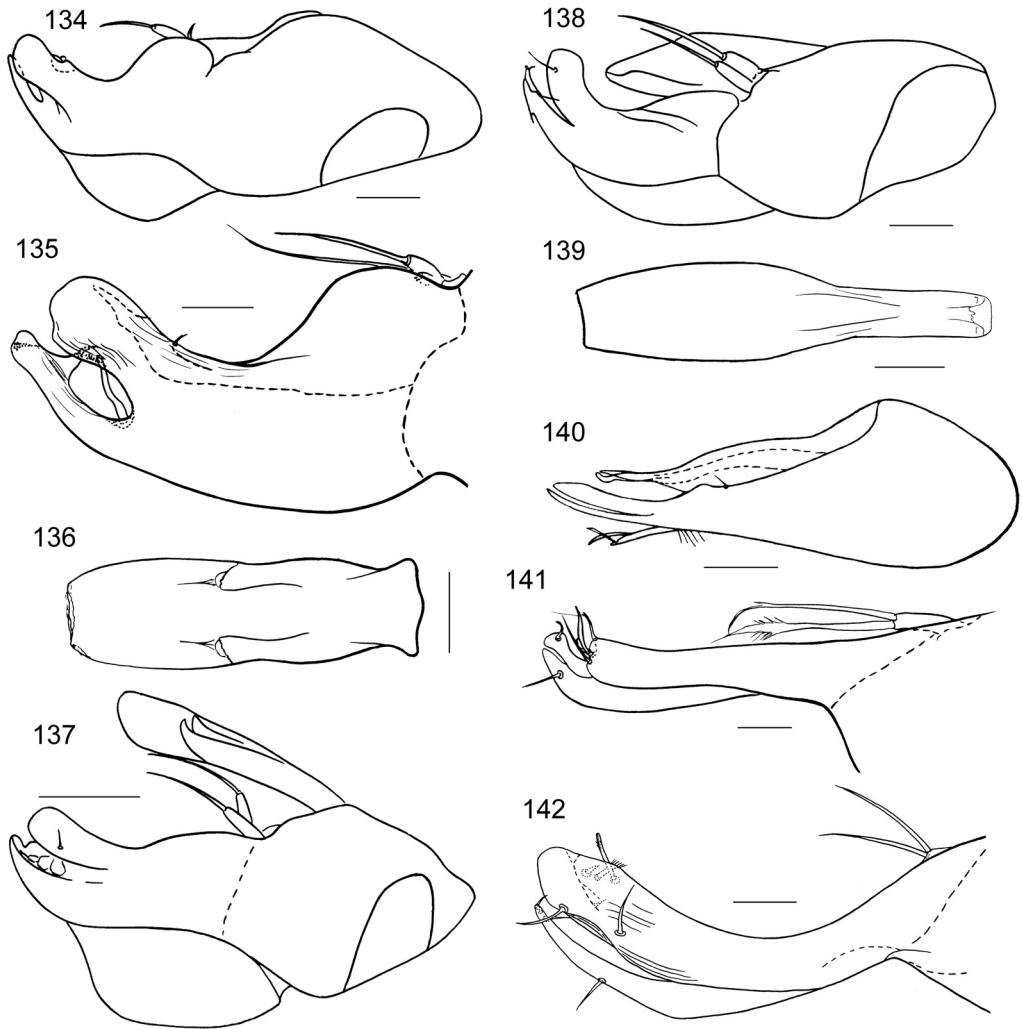
Figs 103–113. *Medetera* spp. **103**, *M. baicalica* Negrobov, surstylus, in lateral view; **104**, *M. caeruleifacies* Naglis et Negrobov, hypopygium, in lateral view; **105**, *M. caeruleifacies* Naglis et Negrobov, hypandrium, in ventral view; **106**, *M. takagii* Negrobov, hypopygium, in lateral view; **107**, *M. tristis* Zetterstedt, hypopygium, in lateral view; **108**, *M. subtristis* Negrobov, hypopygium, in lateral view; **109**, *M. krivosheinae* Negrobov, hypopygium, in lateral view; **110**, *M. apicalis* Zetterstedt, apical part of hypopygium, in lateral view; **111**, *M. impigra* Collin, surstylus, in lateral view; **112**, *M. abstrusa* Thuneberg, hypandrium, in ventral view; **113**, *M. acanthura* Negrobov et Thuneberg, hypopygium, in lateral view (103–105, 110–113, from Negrobov & Stackelberg, 1974a; 106–108, from Negrobov & Stackelberg, 1977; 109, from Negrobov & Stackelberg, 1974b). Scale: **103**, **110**, **111**, 0.05 mm; **104–106**, **107**, **108**, **109**, **112**, **113**, 0.1 mm.



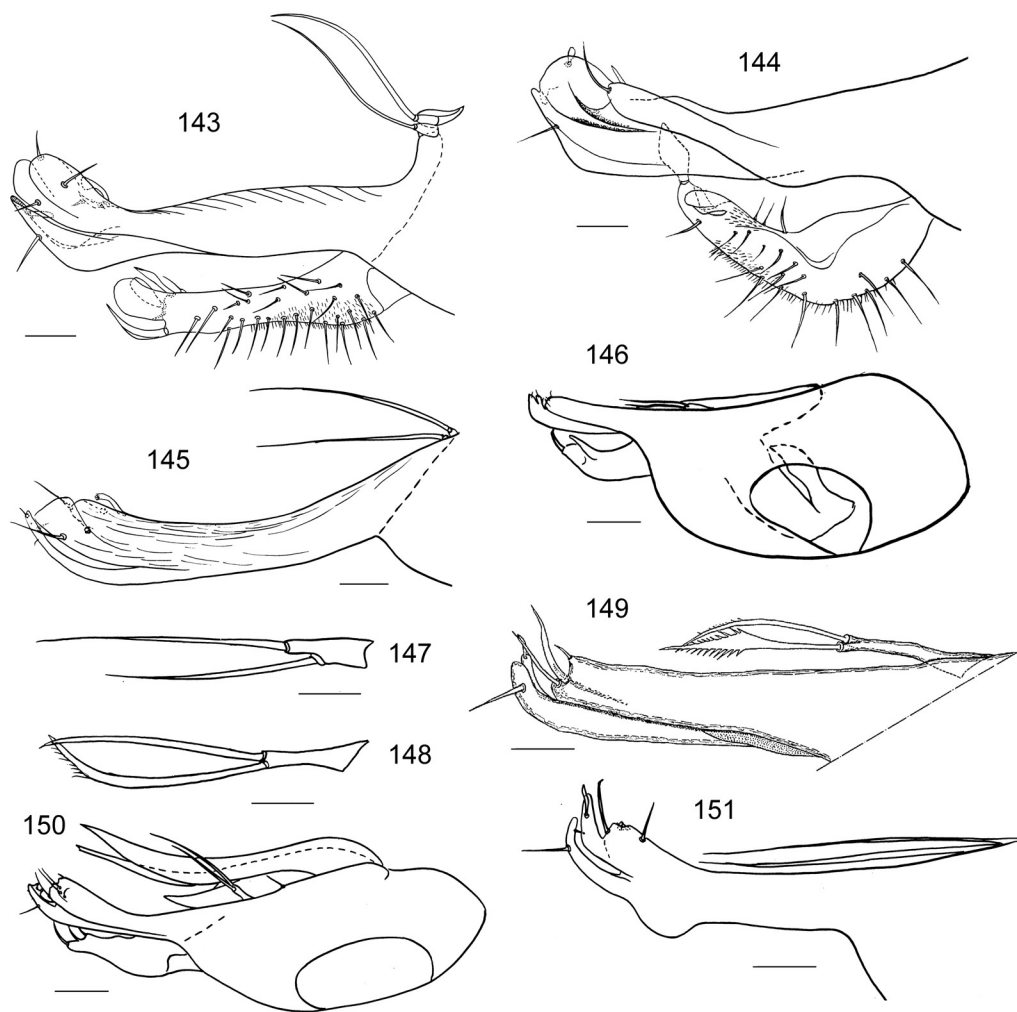
Figs 114–123. *Medetera* spp. **114**, *M. pseudoapicalis* Thuneberg, surstylus, in lateral view; **115**, *M. seguyi seguyi* Parent, hypandrium, in ventral view; **116**, *M. seguyi sphaeroidea* Negrobov, hypandrium, in ventral view; **117**, *M. jugalis* Collin, apical part of hypopygium, in lateral view; **118**, *M. borealis* Thuneberg, hypopygium, in lateral view; **119**, *M. sakhalinensis* Negrobov et Naglis, hypopygium, in lateral view; **120**, *M. striata* Parent, apical part of hypopygium, in lateral view; **121**, *M. japonica* Negrobov, surstylus, in lateral view; **122**, *M. setiventris* Thuneberg, hypopygium, in lateral view; **123**, *M. fasciata* Frey, apical part of hypopygium, in lateral view (114–117, 120–122, from Negrobov & Stackelberg, 1974b; 118, 123, from Negrobov & Stackelberg, 1974a; 119, from Negrobov & Naglis, 2015). Scale: **114**–**117**, **120**, **123**, 0.05 mm; **118**, **122**, 0.1 mm; **119**, 0.5 mm; **121**, 0.03 mm.



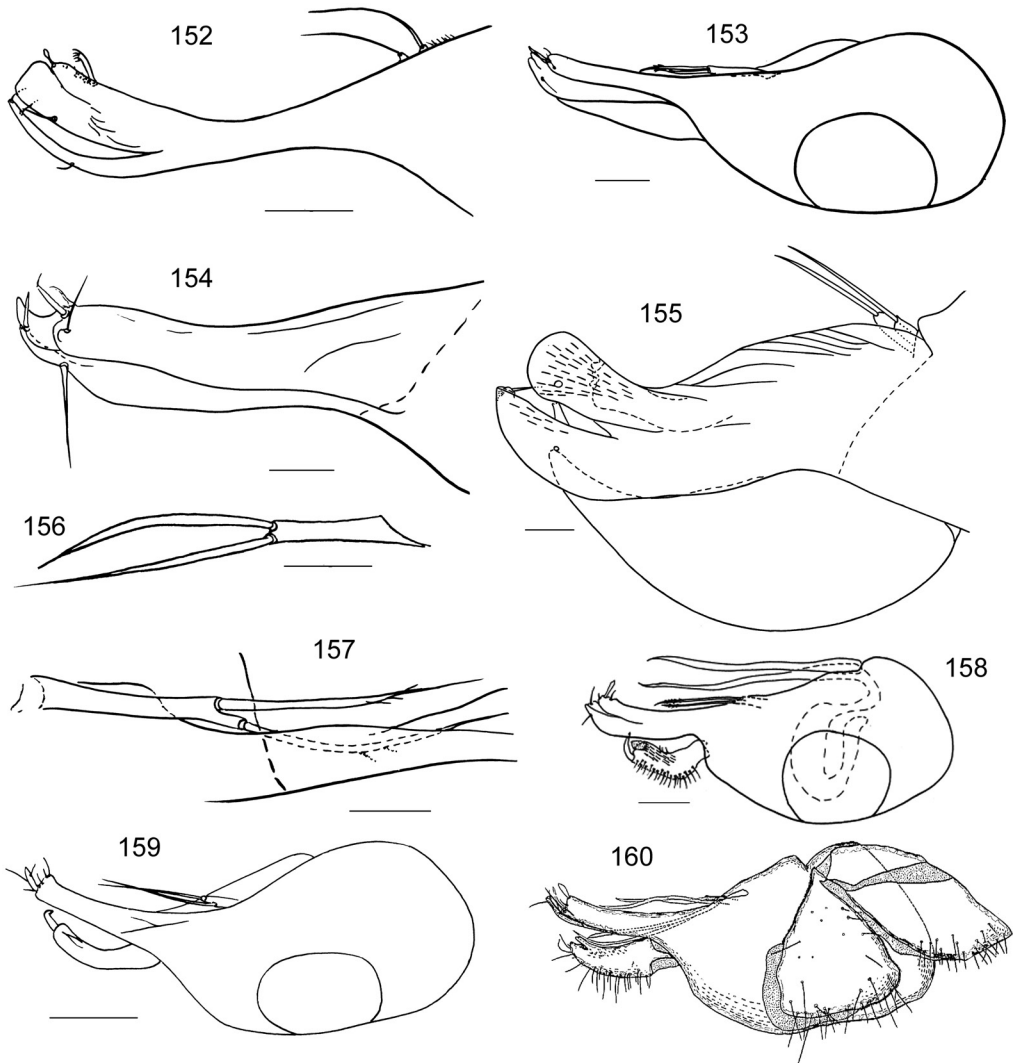
Figs 124–133. *Medetera* spp. **124**, *M. sutshanica* Negrobov, surstylus, in lateral view; **125**, *M. zinovjevi* Negrobov, hypopygium, in lateral view; **126**, *M. complicata* Negrobov, epandrial lobes, in ventral view; **127**, *M. signaticornis* Loew, hypopygium, in lateral view; **128**, *M. penicillata* Negrobov, hypopygium, in lateral view; **129**, *M. dichrocera* Kowarz, hypopygium, in lateral view; **130**, *M. nitida* Macquart, hypandrium, in ventral view; **131**, *M. collarti* Negrobov, hypandrium, in ventral view; **132**, *M. stackelbergiana* Negrobov, surstylus, in lateral view; **133**, *M. bispinosa* Negrobov, hypandrium, in ventral view (124, 125, 132, from Negrobov & Stackelberg, 1977; 126, 127, 130, 131, from Negrobov & Stackelberg, 1974a; 128–130, 133, from Negrobov & Stackelberg, 1974b). Scale: **124**, 0.05 mm; **125–133**, 0.1 mm.



Figs 134–142. *Medetera* spp. **134**, *M. obscura* Zetterstedt, hypopygium, in lateral view; **135**, *M. occultans* Negrobov, surstylus, in lateral view; **136**, *M. fascinator* Negrobov, hypandrium, in ventral view; **137**, *M. adjaniae* Gossieres, hypopygium, in lateral view; **138**, *M. pinicola* Kowarz, hypopygium, in lateral view; **139**, *M. cuspidata* Collin, hypandrium, in ventral view; **140**, *M. educata* Negrobov, hypopygium, in lateral view; **141**, *M. capillata* Negrobov, surstylus, in lateral view; **142**, *M. feminina* Negrobov, surstylus, in lateral view (134, 135, 138, from Negrobov & Stackelberg, 1974b; 136, 137, 139, 141, 142, from Negrobov & Stackelberg, 1974a; 140, from Negrobov, 1979). Scale: **134**, **137**, 0.2 mm; **135**, **136**, **139**, **140**, 0.1 mm; **138**, 0.03 mm; **141**, **142**, 0.05 mm.



Figs 143–151. *Medetera* spp. **143**, *M. parenti* Stackelberg, apical part of hypopygium, in lateral view; **144**, *M. diadema* Linnaeus, apical part of hypopygium, in lateral view; **145**, *M. fissa* Negrobov, surstylus, in lateral view; **146**, *M. latipennis* Negrobov, hypopygium, in lateral view; **147**, *M. sphaeropyga* Negrobov, epandrial lobes, in ventral view; **148**, *M. stylata* Negrobov, epandrial lobes, in ventral view; **149**, *M. gotohorum* Masunaga et Saigusa, surstylus, in lateral view; **150**, *M. vagans* Becker, hypopygium, in lateral view; **151**, *M. tarasovae* Negrobov, surstylus, in lateral view (143, 146, 147, from Negrobov & Stackelberg, 1974b; 144, 145, from Negrobov & Stackelberg, 1974a; 148, 150, 151, from Negrobov & Stackelberg, 1977; 149, from Masunaga & Saigusa, 1998). Scale: **143**, **146**, **150**, 0.1 mm; **144**, **147**, **148**, **151**, 0.05 mm; **145**, 0.03 mm.



Figs 152–160. *Medetera* spp. **152**, *M. sibirica* Negrobov, surstylus, in lateral view; **153**, *M. infumata* Loew, hypopygium, in lateral view; **154**, *M. ambigua* Zetterstedt, surstylus, in lateral view; **155**, *M. melancholica* Lundbeck, apical part of hypopygium, in lateral view; **156**, *M. brunea* Negrobov, epandrial lobes, in ventral view; **157**, *M. jakuta* Negrobov, epandrial lobes, in ventral view; **158**, *M. veles* Loew, hypopygium, in lateral view; **159**, *M. bilineata* Frey, hypopygium, in lateral view; **160**, *M. flavigena* Masunaga et Saigusa, hypopygium, in lateral view (152, 155, 157, from Negrobov & Stackelberg, 1974b; 153, 154, 156, 159, from Negrobov & Stackelberg, 1974a; 158, from Bickel, 1985; 160, from Masunaga & Saigusa, 1998). Scale: **152, 154, 156**, 0.05 mm; **153, 155**, 0.1 mm; **157, 159**, 0.02 mm; **158**, 0.125 mm.